

GOVERNMENT OF INDIA  
ARCHAEOLOGICAL SURVEY OF INDIA  
ARCHAEOLOGICAL  
LIBRARY

---

ACCESSION NO. 8861

CALL No. 617.91780954/Muk

D.G.A. 79



8

**THE**  
**Surgical Instruments of the Hindus**





THE  
SURGICAL INSTRUMENTS  
OF THE HINDUS

WITH

A Comparative Study of the Surgical Instruments of  
the Greek, Roman, Arab and the Modern  
European Surgeons

BY

GIRINDRANĀTH MUKHOPĀDHYĀYA, B.A., M.D.

*Fellow of the Calcutta University, McLeod Gold Medalist in Surgery, Formerly  
Lecturer on Surgery, Calcutta Medical School and College of Physicians  
and Surgeons (Bengal), Member of the Asiatic Society of Bengal,  
Life Member and Professor of Botany, Indian Association  
for the Cultivation of Science, Examiner,  
Calcutta University.*

Griffith Prize Essay for 1909

In Two Volumes

Vol. II

396 Illustrations in 82 Plates

Published by the Calcutta University

1914



REGISTRAR GENERAL

Reg. No.

D3026(7)

INDIA.

617.9

CENTRAL ARCHAEOLOGICAL  
LIBRARY, NEW DELHI.

Acc. No. .... 886/... ..

Date..... 18.7.57 .....

Call No. .... 617.917.80954 .....

*Muk* 617.917.80954

PRINTED BY ATULCHANDRA BHATTACHARYYA *Muk*

AT THE

CALCUTTA UNIVERSITY PRESS

*Senate House, Calcutta.*



## PREFACE

---

Much trouble has been taken with our illustrations, but the author is fully conscious of their many defects. I am greatly indebted to several authors mentioned in the legends to the plates as the readers will find certain of their illustrations copied in this volume. It was found necessary in a comparative study of the surgical instruments used by the different nations of the world. It has been my wish to render due credit to all persons for the illustrations by which they may severally have contributed to the advancement of our knowledge of the subject, and I have never assumed to myself drawings, which belong to others. For those illustrations, not otherwise acknowledged, the author is solely responsible.

For his skill and patience in drawing and printing these figures I am glad to take this opportunity of thanking Mr. K. V. Seyne.

The author deems it a pleasant duty to express his thanks to the University of Calcutta for the liberality displayed in the matter of illustrations.

80, RUSSA ROAD NORTH, }  
*Calcutta, February, 1914.* } G. N. MUKHOPĀDHYĀYA.





## ABBREVIATIONS

- Adams :           The Genuine Works of Hippocrates. Translated  
by Francis Adams, LL.D. in two volumes.  
(Sydenham Society).
- A. H. :           Catalogue of Surgical Instruments and  
Appliances. Allen and Hanburys Ltd. 1903.
- A. S. :           Catalogue of Surgical Instruments and  
Appliances. Arnold and Sons. 1895.
- Anderson :       See Wellcome.
- B. B. :           Surgical Instruments and Appliances. Burgoyne,  
Burbidges & Co.
- C. C. G. :       Collection de Chirurgiens Grecs. Bibliothèque  
Nationale. Paris.
- Erichsen :       The Science and Art of Surgery. By Sir John  
Eric Erichsen Bt., F.R.S., LL.D. Tenth  
Edition. 1895.
- Esmarch :       The Surgeon's Handbook of the Treatment of  
Wounded in War. By Dr. Friedrich Esmarch.
- Heath :          Minor Surgery and Bandaging. By C. Heath,  
F.R.C.S. Second Edition.
- I. M. G. :       Indian Medical Gazette, 1904.
- K. S. :           Catalogue of Surgical Instruments. Kny-  
Scheerer & Co.
- Milne :          Surgical Instruments in Greek and Roman  
Times. By T. S. Milne, M.A., M.D., 1907.
- Porter :         The Surgeon's Pocket-Book. The Best  
Treatment of Wounded in War. By  
Surgeon-Major T. H. Porter. 1891.
- Princep :        Princep's (Thomas') Indian Antiquities.

- Swain : Surgical Emergencies. By W. P. Swain,  
F.R.C.S. Third Edition. 1880.
- Thakore Saheb : History of Aryan Medical Science. By H. H.  
Sir Bhagvat Singh Jee., K.C.I.E., M.D.,  
D.C.L., LL.D., F.R.C.P.E. Thakore Saheb  
of Gondal. 1896.
- Waggett : Diseases of the Nose. By E. B. Waggett,  
M.A., M.B., B.C. 1907.
- Wellcome : Third Report of the Wellcome Research  
Laboratories at the Gordon Memorial College,  
Khartoum.
- White : The Veterinary Art. By James White. 1851.
-

# CORRECTIONS

Page	37	Plate	XIX	Fig.	5	Read	Sanipatra	for	Amipatra.
„	88	„	XLIV	„	2	„	3	„	2
„	88	„	XLIV	„	3	„	2	„	3
	103	„	LII	„	209	„	4	„	209
„	108	„	LIV	„	5	„	6	„	5
„	108	„	LIV	„	6	„	5	„	6
	137	„	LXXIX	„	5	„	5	before	—.

---

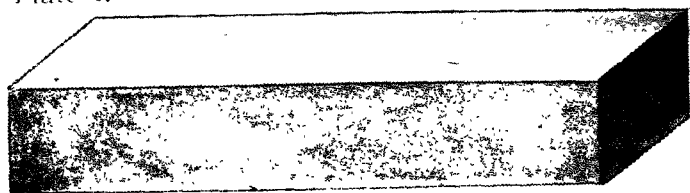
# THE SURGICAL INSTRUMENTS OF THE HINDUS.

## PLATE I.

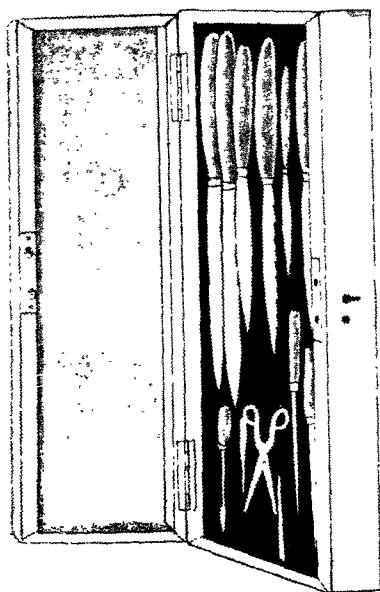
FIGURE.			PAGE.
1.—Śilā or Whetstone	...	...	80
2.—Instrument box	...	...	80
3.—Instrument box of the Greeks, Milne. Plate IV.	...	...	80
4.—Instrument box (modern) A. H. Fig. 223			80

# The Surgical Instruments of the Hindus.

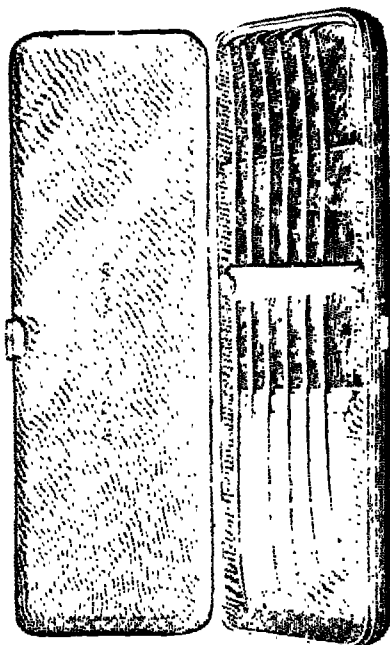
Plate I.



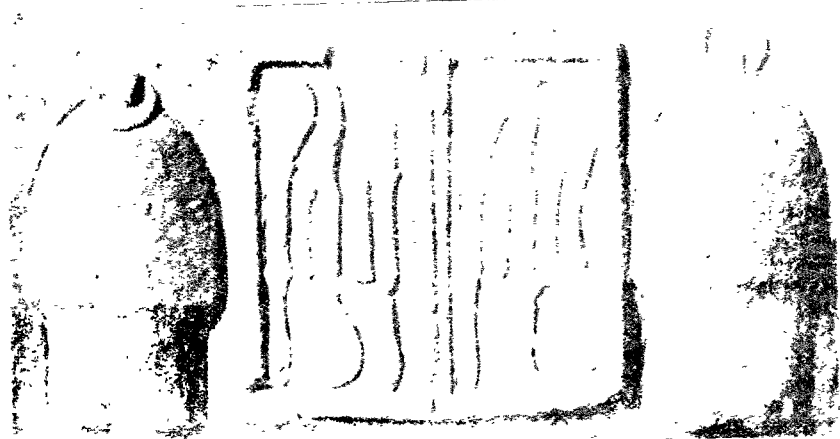
1



2



3



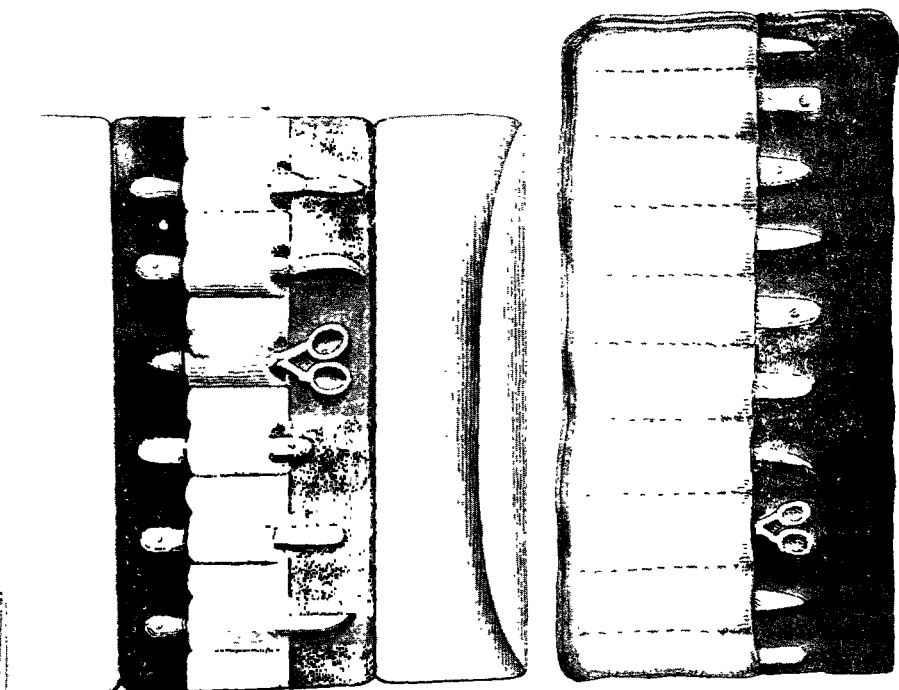
4

PLATE II.

FIGURE.		PAGE.
1.—Śastrakośa or Instrument case of leather	...	80
2.—Śastrakośa as used by the barbers of India in the present time	...	80
3.—Modern Instrument case. A. H. Fig. 568.	...	80

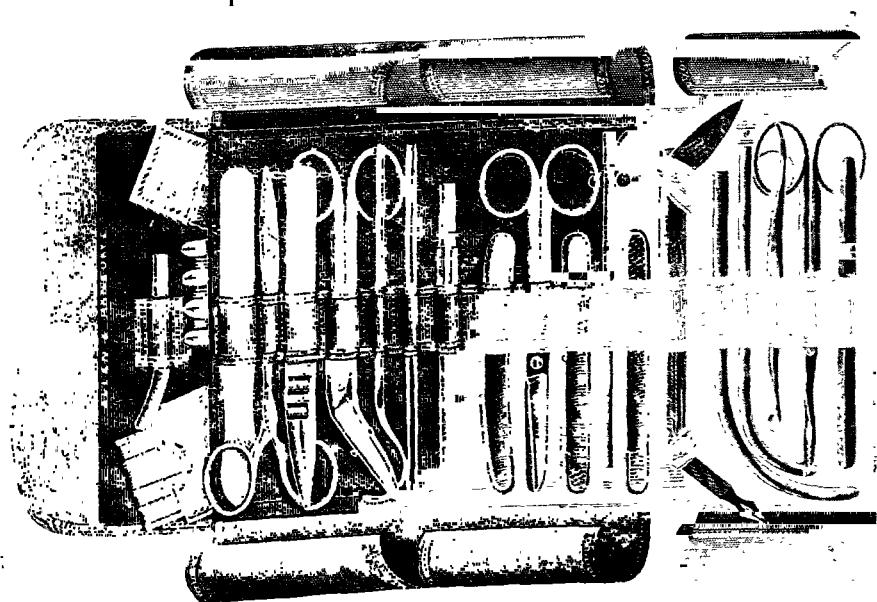
# The Surgical Instruments of the Hindus.

Plate II.



1

2



3

4



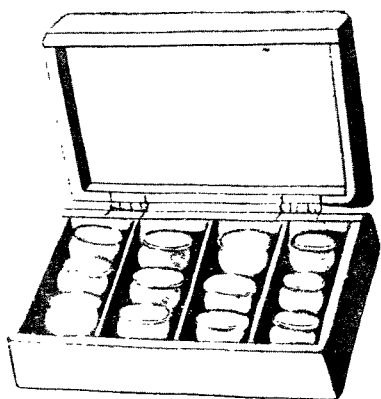
# THE SURGICAL INSTRUMENTS OF THE HINDUS.

## PLATE III.

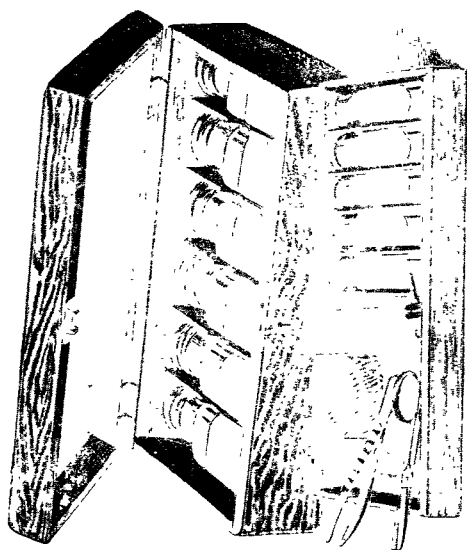
FIGURE.	PAGE.
1.—Box for Ointment pots ... ..	82
2.—Box for Medicine (Modern) A. H. Fig. 9740	82
3.—Medicine Box. Greek. Milne. Pl. LIV	82
4.—Ointment Sticks in case ... ..	83
5.—A case for probes (Modern) A. H. Fig. 1715.	83

# The Surgical Instruments of the Hindus.

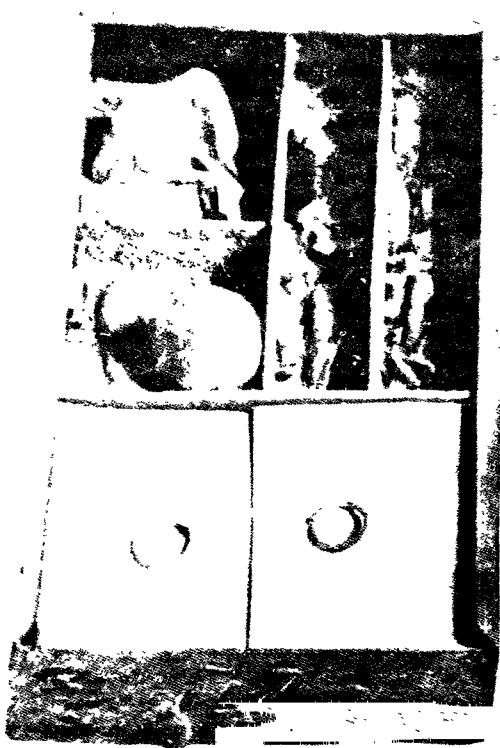
Plate III.



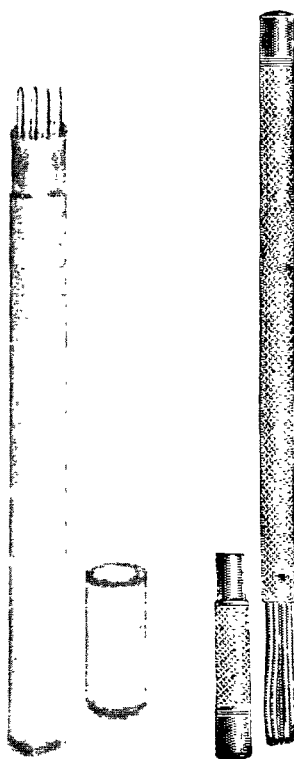
1



2



3



4

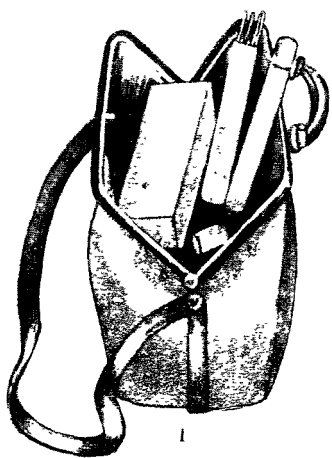
5

PLATE IV.

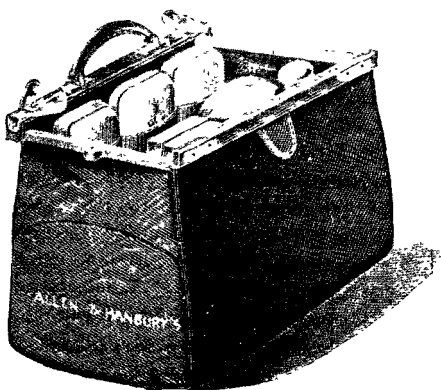
FIGURE.		PAGE.
1.—Bag with shoulder strap containing the Medicine boxes and Instrument cases	...	85
2.—Bag with Instruments (Modern) A. H. Fig.	...	84
3.—Operation Table	... ..	86
4.—Operation Table (Modern) A. H. Fig.	...	86
5.—Jānumātrāsana or Operation stool	...	86
6.—Operation stool (modern). A. H. Fig. 90.	...	86

# The Surgical Instruments of the Hindus.

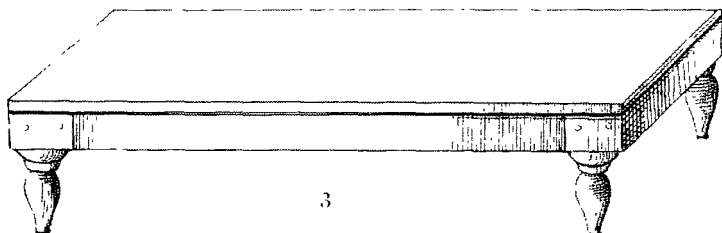
Plate IV.



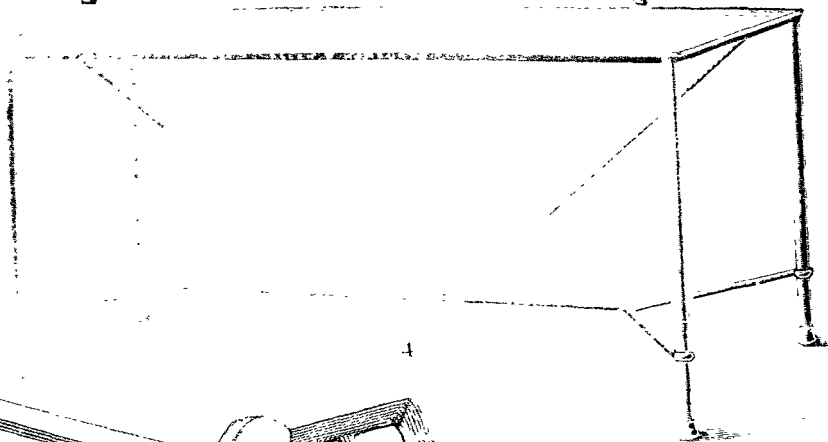
1



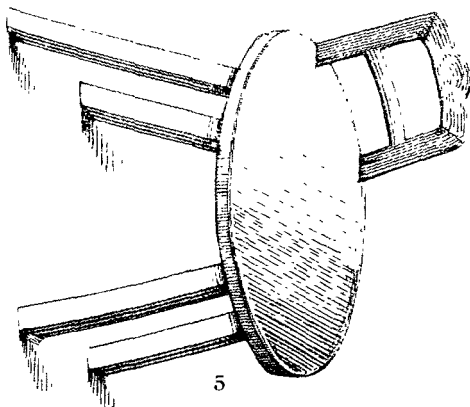
2



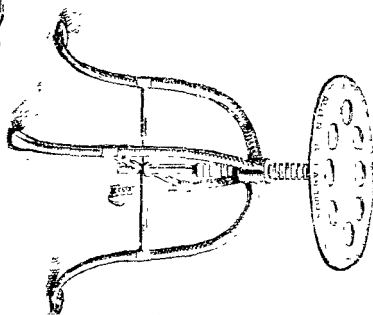
3



4



5



6

8

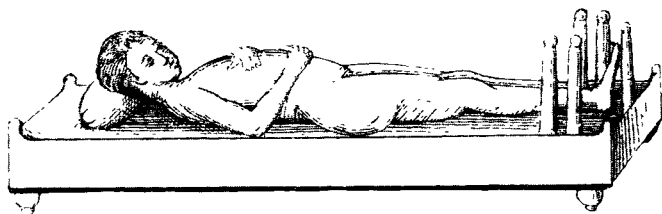
PLATE V.

KAPĀṬA-ŚĀYANA OR FRACTURE-BED OF THE HINDUS.

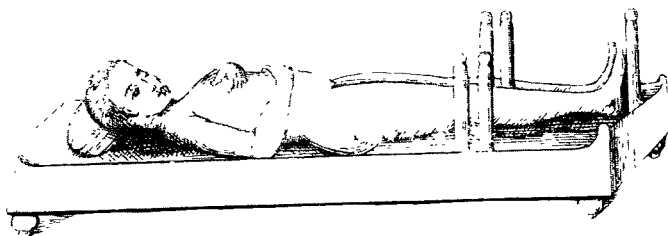
FIGURE.	PAGE.
1.—Kapāṭa-Śāyana for fracture of the bones of the leg. 5 pegs: 2 on each side of the ankle, one supports the foot ...	87
2.—Kapāṭa-Śāyana for fracture of the thigh bone. 5 pegs: 2 on each side of the knee-joint, one under the foot ...	87
3.—Kapāṭa-Śāyana for fracture of the thigh bone or dislocation of the hip-joint. 5 pegs: 2 on each side of the hip joint, one under the foot ...	87

# The Surgical Instruments of the Hindus.

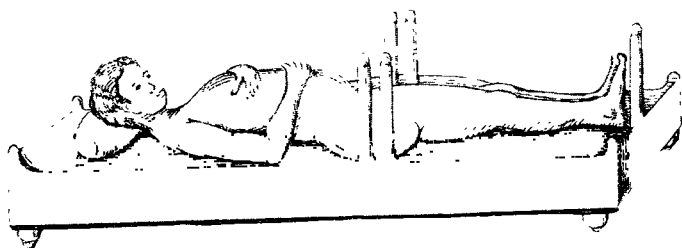
Plate V.



1



2



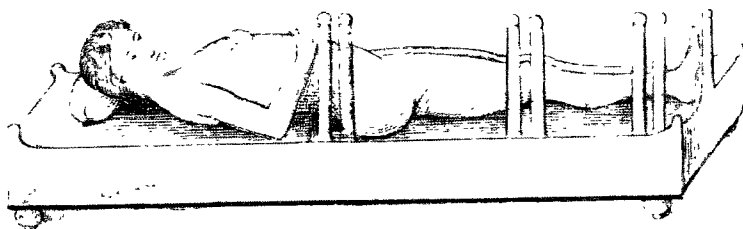
3

PLATE VI.

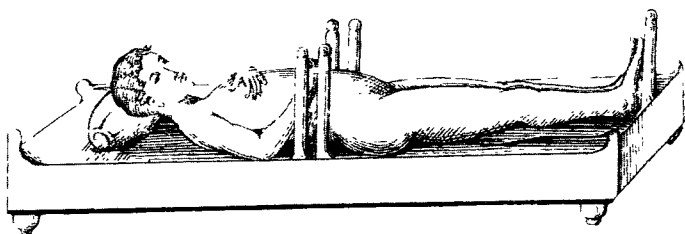
FIGURE.	PAGE
1.—Kapāṭa-Śayana for a double fracture of the thigh bone and bones of the leg. 7 pegs: 2 on the outer side of the hip, knee and ankle joints respectively, one under the foot	... 87
2. Kapāṭa-Śayana for fracture and dislocation of the spinal column. 5 pegs: 2 on each side of the spine, one under the foot	... 87
3.—Kapāṭa-Śayana for fracture and dislocation of the bones of the thorax. 5 pegs: 2 on each side of the chest, one under the foot	... 87
4.—Kapāṭa-Śayana for fracture and dislocation of the clavicle. 5 pegs: 2 on each side of the shoulder joint, <i>i.e.</i> , 2 on the outer side of the shoulder and 2 in the axilla, one under the foot	87

# The Surgical Instruments of the Hindus.

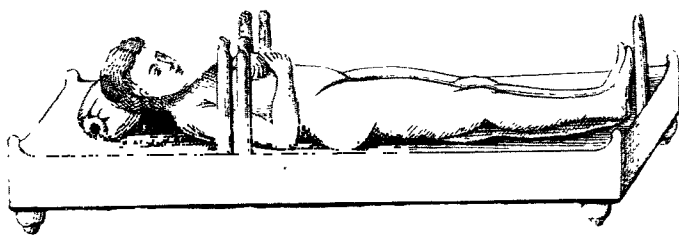
## Plate VI.



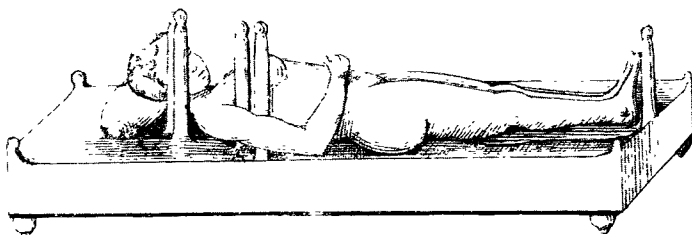
1



2



3



4



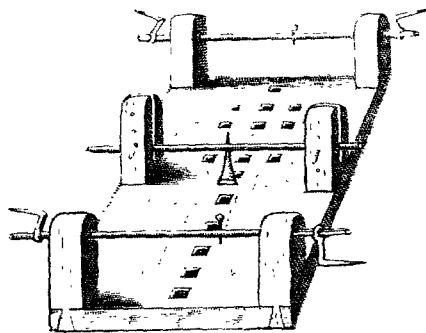
PLATE VII.

FIGURE.	PAGE.
1.—The Scamum Hippocratis <i>or</i> Bench of Hippocrates, as represented by Andreas a Cruce ( <i>Officina Chirurgicalia venetis</i> , 1596) ...	88
2.—The same as represented by M. Littré ...	88
A. A board, 6 cubits long, 2 broad and 12 inches thick ; not 13 as incorrectly stated by M. Littré.	
B. The feet of the Axles, which are short.	
CC. Axle-trees.	
DD. Grooves 3 inches deep, 3 broad, seperated from one another by 4 inches.	
E. A small post <i>or</i> pillar, fastened in the middle of the machine in a quadrangular hole.	
F. Pillars a foot long.	
G. A cross-beam laid on the pillars FF, which can be placed at different heights by means of holes in the pillars.	

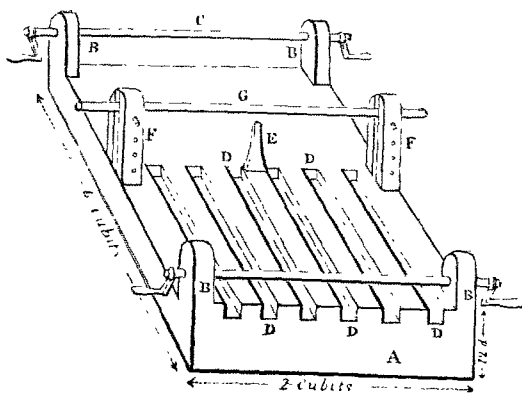
Adams. Vol. II. Pl. IV. Fig. 1 & 2.

# The Surgical Instruments of the Hindus.

Plate VII.



1.



2

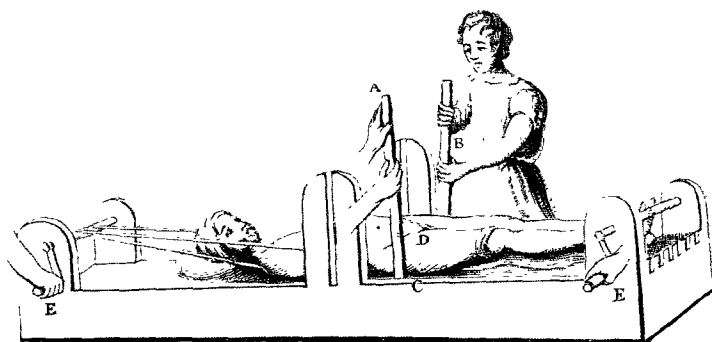
2.

PLATE VIII.

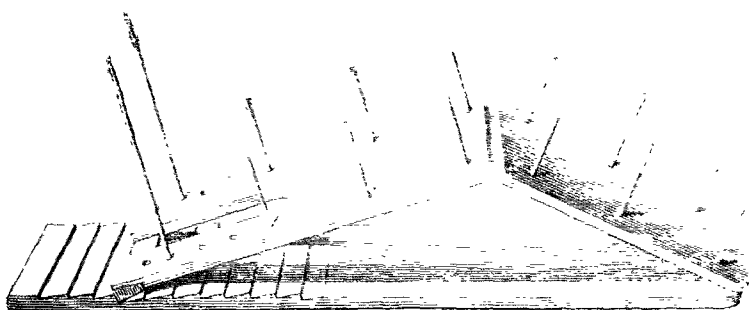
FIGURE.	PAGE.
1.—Representation of the mode of reducing dislocation of the thigh outwards, as given by M. Littré ( <i>Œuv. d'Hipp.</i> , tom. iv, p. 305) ...	89
<i>A mistake in the figure given by M. Littré is here corrected.</i>	
A. A lever applied to the nates of the luxated side, and acting from without inwards, in order to bring the head of the bone into its cavity.	
B. Another lever, held by an assistant, put into one of the grooves of the machine, and intended to act against lever A.	
C. Groove in which the end of the lever A takes its point of support.	
D. The luxated member.	
EE. Extension and counter-extension.	
Adams. Vol. II. Pl. V. Fig. 1.	
2.—The double inclined plane ( <i>Planum inclinatum duplex</i> ) framed out of some boards and provided at the sides with wooden pegs, by which the borders of the quilled horse hair mattress, supporting the leg, are pressed against the limb, Esmarch. Fig. 201 ...	89

# The Surgical Instruments of the Hindus.

## Plate VIII.



1.



2.

PLATE IX.

FIGURE.	PAGE.
1.—Banc d'Hippocrate, d'après Rufus, servant à réduire différentes luxations. C. C. G.	
Pl. XCV.    ...                    ...                    ...                    ...	89

# The Surgical Instruments of the Hindus.

Plate IX.

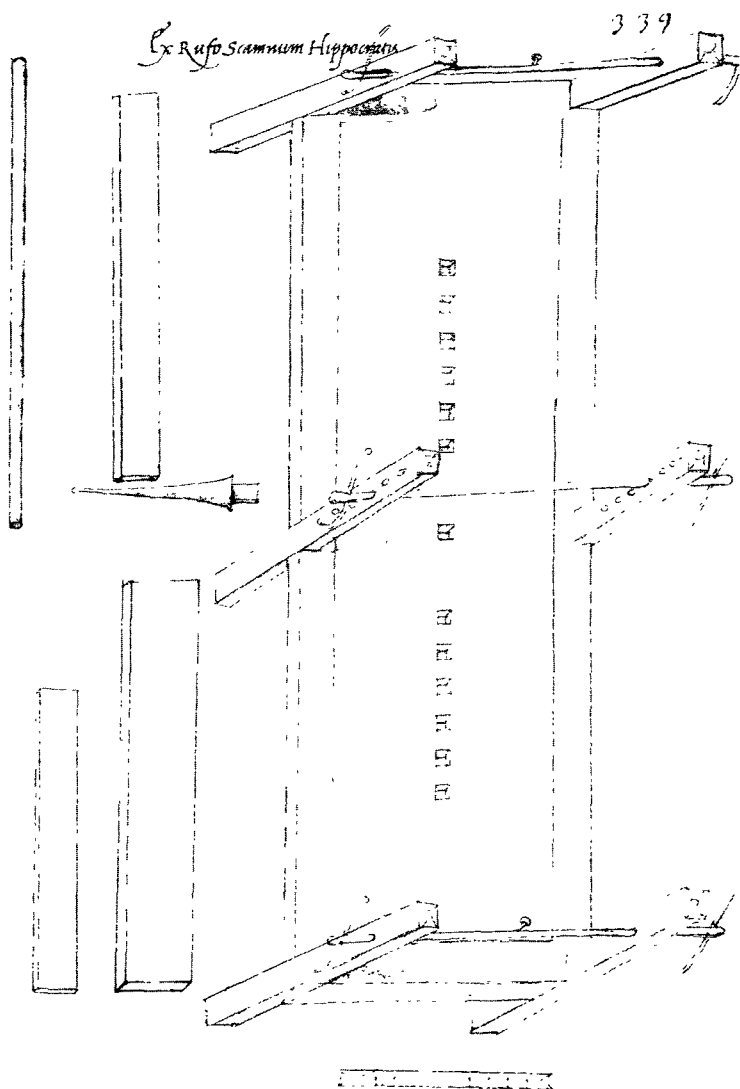


PLATE X.

FIGURE.	PAGE.
1.—Plinthium, ou cadre de Nileus, d'après Héliodore. C. C. G. Pl. LXXIII ...	89

# The Surgical Instruments of the Hindus.

Plate X.

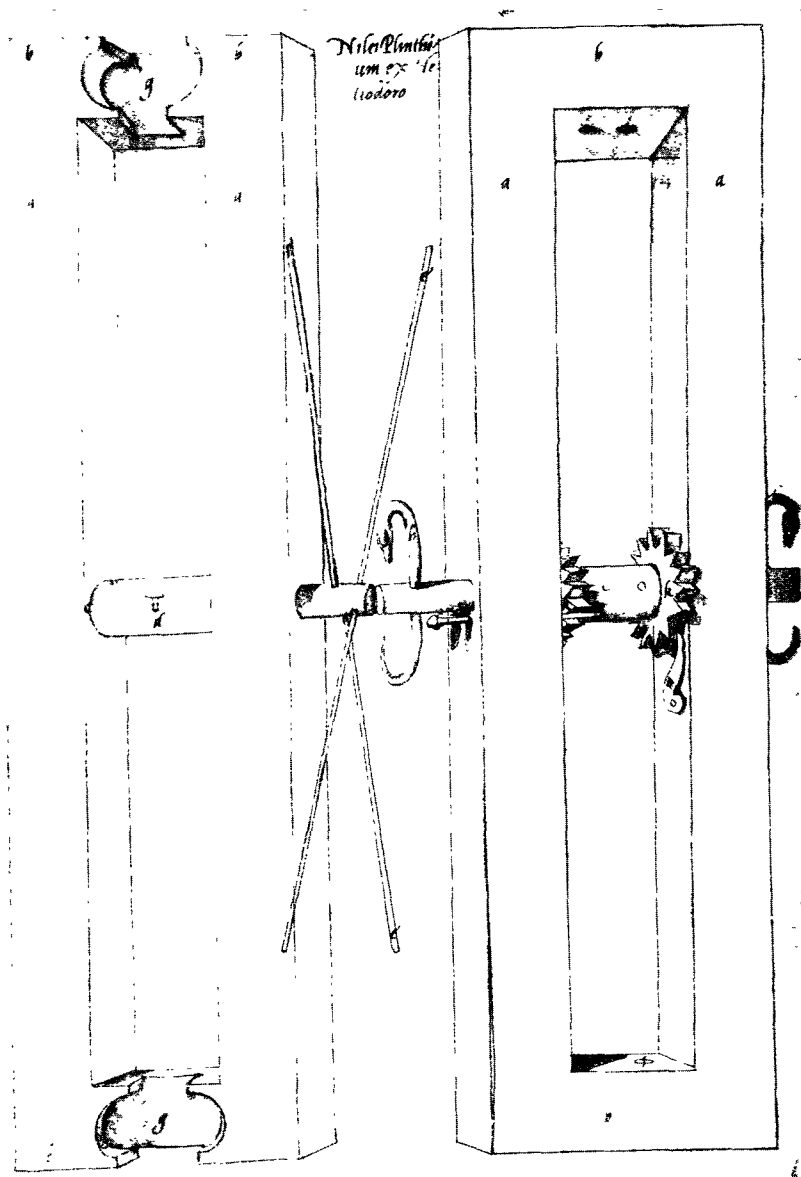




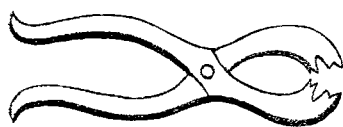
PLATE XI.

THE SVASTIKA YANTRA OR CRUCIFORM INSTRUMENTS.

FIGURE.	PAGE.
1.—Siṃhamukha Svastika, or Lion forceps, after Thakore Saheb ... ..	101
2.—Siṃhamukha Svastika ... ..	101
3.—Lion forceps (Fergusson's) A. H. Fig. 1052. ...	101
4.—Vyāghramukha Svastika, or Tiger forceps, after Thakore Saheb ... ..	102
5.—Vyāghramukha Svastika ... ..	102
6.—Vṛkamukha Svastika, or Wolf forceps, after Thakore Saheb ... ..	102
7.—Vṛkamukha Svastika ... ..	102
8.—Tarakṣumukha Svastika, or Hyena forceps, after Thakore Saheb ... ..	102
9.—Tarakṣumukha Svastika ... ..	102

# The Surgical Instruments of the Hindus.

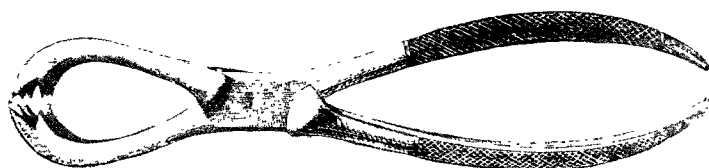
Plate XI



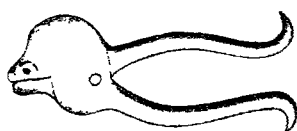
1



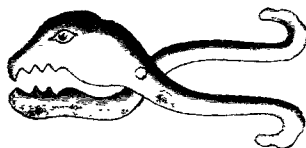
2



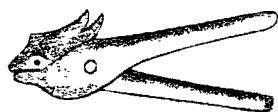
3



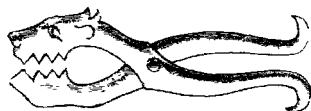
4



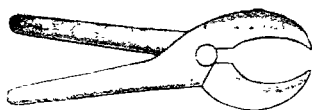
5



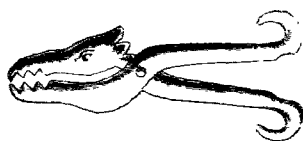
6



7



8



9

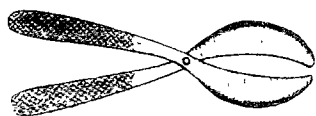
PLATE XII.

THE SVASTIKA YANTRA OR CRUCIFORM INSTRUMENTS.

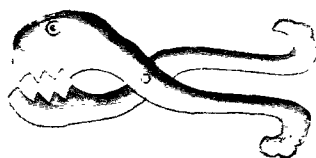
FIGURE.	PAGE.
1.—Ṛkṣamukha Svastika, or Bear forceps. After Thakore Saheb ... ..	102
2.—Ṛkṣamukha Svastika ... ..	102
3.—Dvīpimukha Svastika, or Panther forceps ...	102
4.—Mārjāramukha Svastika, or Cat forceps ...	102
5.—Śṛgālamukha Svastika, or Jackal forceps ...	102
6.—Airbbārūkamukha Svastika, or Deer forceps ...	102
7.—Makaramukha Svastika, or Crocodile forceps ...	102
8.—Mathieu's Aural forceps, with crocodile mouth A. H. Fig. 1993. ... ..	102

# The Surgical Instruments of the Hindus.

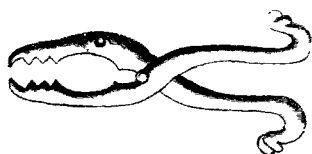
Plate XII.



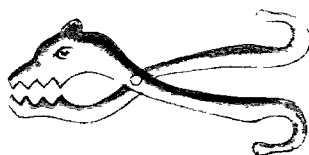
1



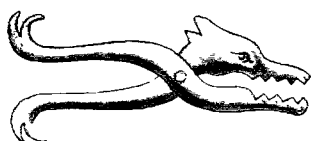
2



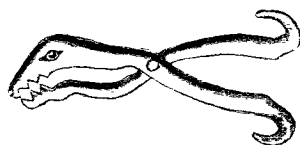
3



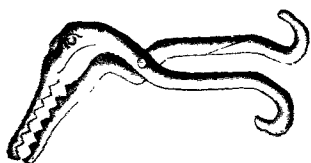
4



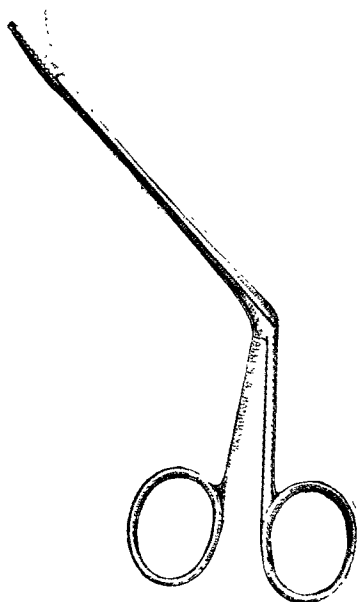
5



6



7



8

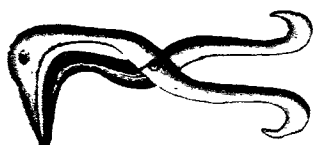
PLATE XIII.

THE SVASTIKA YANTRA OR CRUCIFORM INSTRUMENTS.

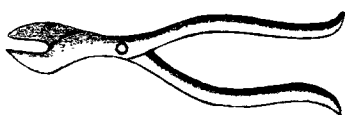
FIGURE.		PAGE.
1.—Kākamukha Svastika, or Crow forceps	...	103
2.—The same, after Thakore Saheb	...	103
3.—Kaṅkamukha Svastika, or Heron forceps	...	103
4.—The same, after Thakore Saheb	...	103
5.—Kuraramukha Svastika, or Osprey forceps	...	103
6.—Cūsamukha Svastika, or Blue-Jay forceps	...	103
7.—Bhāsamukha Svastika, or Eagle forceps	...	103
8.—Śaśaghātīmukha Svastika, or Hawk forceps	...	103

# The Surgical Instruments of the Hindus.

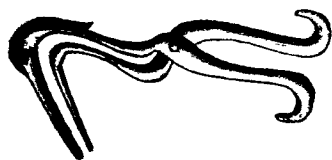
Plate XIII.



1



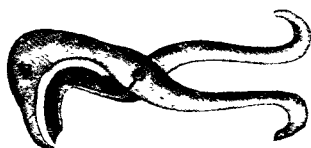
2



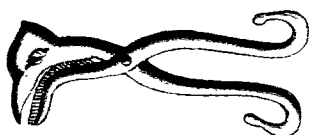
3



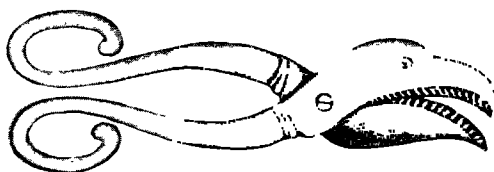
4



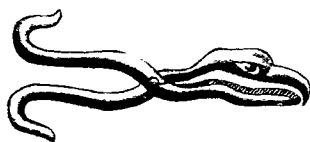
5



6



7



8

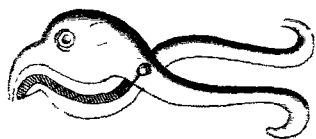
PLATE XIV.

THE SVASTIKA YANTRA OR CRUCIFORM INSTRUMENTS.

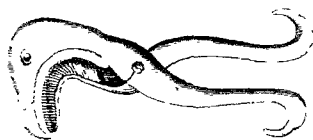
FIGURE.	PAGE.
1.—Ulukamukha Svastika, or Owl forceps	... 103
2.—Cillimukha Svastika, or Kite forceps ...	... 103
3.—Śyenamukha Svastika, or Vulture forceps, after Thakore Saheb ... ..	... 103
4.—Gr̥dhramukha Svastika, or Falcon forceps	... 103
5.—Krauñcamukha Svastika, or Curlew forceps	... 103
6.—Bhṛūgarājamukha Svastika, or Butcher-bird forceps, after Thakore Saheb ...	... 103
7.—Greek forceps for extracting bone. Adams. Vol. I. Pl. III. Fig. 9. ... ..	... 103

# The Surgical Instruments of the Hindus.

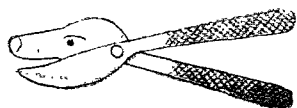
## Plate XIV.



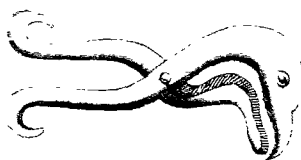
1



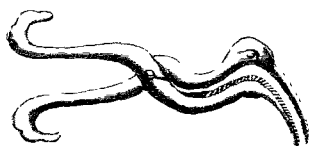
2



3



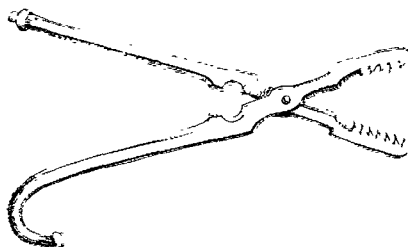
4



5



6



7



PLATE XV.

THE SANDAṂŚA OR PINCHER-LIKE INSTRUMENTS.

FIGURE.	PAGE.
1.—SĀḍĀSĪ or Blacksmith's forceps ...	106
2.—Blacksmith's tongs. Milne, Pl. XLII. Fig. 2. ...	106
3.—Sandaṁśa Yantra, or Forceps with arms, after Thakore Saheb ...	104
4.—Sonnā, or Forceps without arms, Goldsmith's forceps ...	106
5.—Forceps with smooth ends ...	104
6.—Forceps with rough ends ...	104

# The Surgical Instruments of the Hindus.

Plate XV.

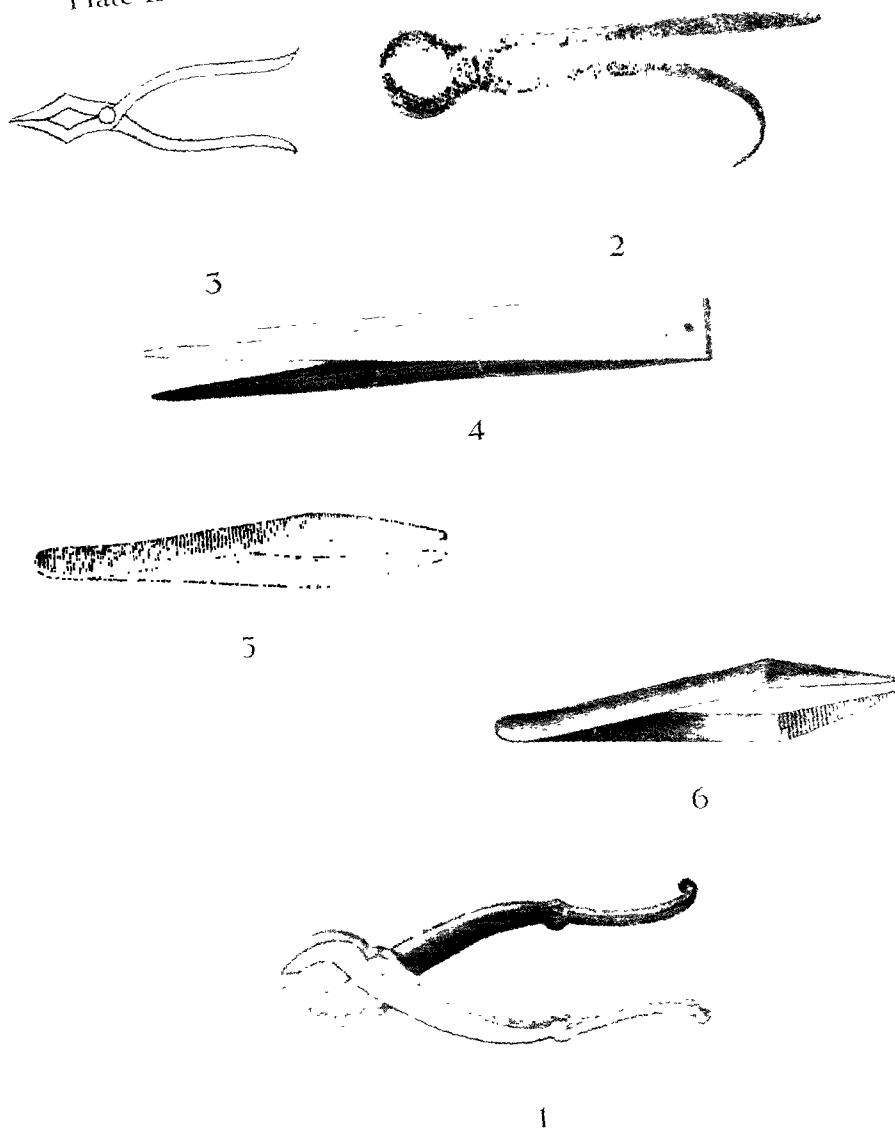


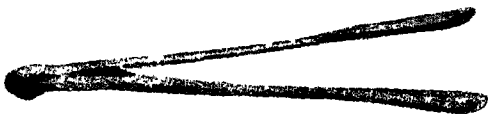
PLATE XVI.

THE SANDAṂŚA YANTRA OR PINCHER-LIKE INSTRUMENTS.

FIGURE.	PAGE.
1.—Epilation forceps ... ..	105
2.—Epilation forceps. Milne. Pl. XXVI. Fig. 3 ... ..	105
3.—Epilation Forceps (modern) ...	105
4.—Depilatory forceps (modern) A. S. Fig. 2891	105
5.—Mucutī Yantra ... ..	105
6.—Mucutī Yantra, after Thakore Saheb	106
7.—Mucundi ... ..	106
8.—The Dressing forceps, (Mason's) A. H. Fig.	106

The Surgical Instruments of the Hindus.

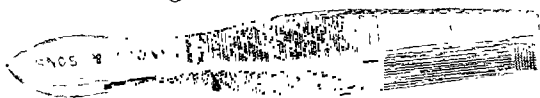
Plate XVI.



2



3



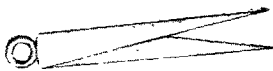
4



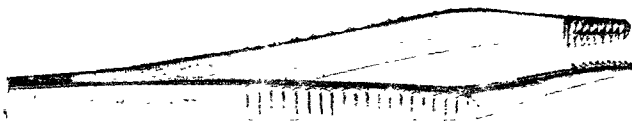
5



6



7



8

PLATE XVII.

THE TĀLA YANTRA OR PICK LOCK-LIKE INSTRUMENTS.

FIGURE.		PAGE.
1.—Ekatāla Yantra	.. ...	107
2.—Ekatāla Yantra	... ...	107
3.—Dvitāla Yantra	... ...	107
4.—Ekatāla and Dvitāla,	after Thakore Sahel	107
5.—Ear Scoop (modern)	... ...	107
6.—El. Malahga or Ear spoon used in Kordofan.		
Anderson. Fig. 41. Wellcome.	... ...	107

# The Surgical Instruments of the Hindus.

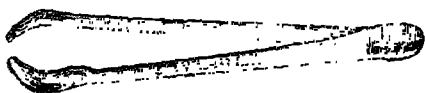
## Plate XVII.



1



2



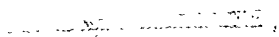
3



4



5



6

PLATE XVIII.

THE NĀḌĪ YANTRA OR TUBULAR INSTRUMENTS.

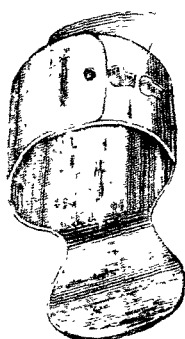
FIGURE.		PAGE.
1.—Kañṭhya Śalyāvalokinī or Throat Speculum	...	109
2.—Mouth Speculum (Modern) B. B. Fig. 353	...	109
3.—Pañchamukha or Speculum with 5 holes	...	110
4.—Trimukha or Speculum with 3 holes	...	110
5.—Śalyanirghātanī	... ..	111

# The Surgical Instruments of the Hindus.

Plate XVII.



1



2



3



4



5



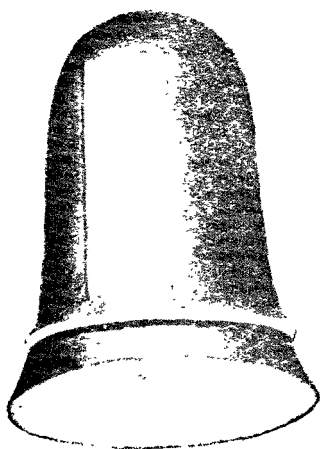
PLATE XIX.

THE NĀḌĪ YANTRA OR TUBULAR INSTRUMENTS.

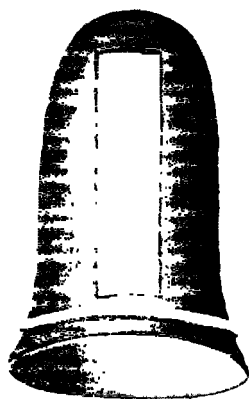
FIGURE.	PAGE.
1.—Arśa Yantra, or Tubular instrument for piles ...	112
2.—The same (Vāgbhaṭa) ...	113
3.—The same, after Thakore Saheb ...	112
4.—Śamī Yantra ...	113
5.—Amipatra Yantra, after Thakore Saheb ...	113
6.—Furgusson's Rectal Speculum (Modern) B. B. Fig. 999 ...	113

# The Surgical Instruments of the Hindus.

Plate XIX.



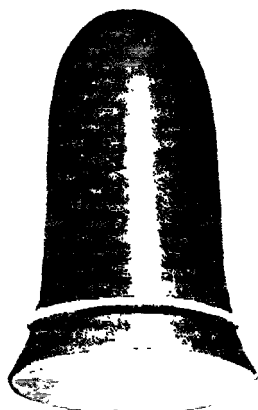
1



2



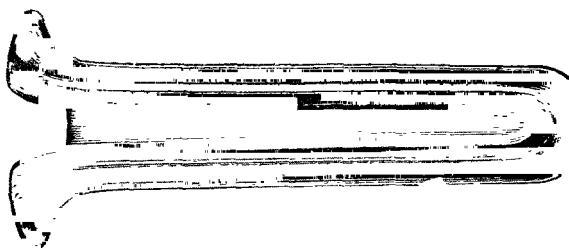
3



4



5



6

PLATE XX.

THE NĀḌĪ YANTRA OR TUBULAR INSTRUMENTS.

FIGURE.	PAGE.
1.—Bhagandara Yantra, or Tubular Instruments for Fistula-in-ano, with two slits ...	114
2.—The same, with one slit ... ..	114
3.—Nāḍī Yantra, after Thakore Saheb ... ..	114

# The Surgical Instruments of the Hindus.

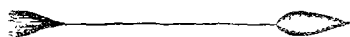
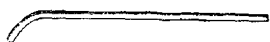
Plate XX.



1



2



3

PLATE XXI.

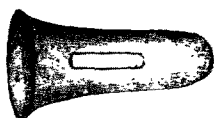
NĀḌĪ YANTRA OR TUBULAR INSTRUMENTS.

TUBULAR INSTRUMENTS FOR NOSE.

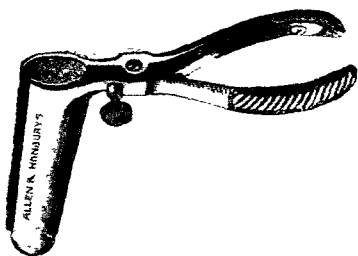
FIGURE.	PAGE.
1.—Nasal Speculum ... ..	115
2.—Nasal Speculum (modern). A. H. Fig. 2553. ...	115
3.—Nasal Tube ... ..	115
4.—Nasal Insufflator (modern) A. H. Fig. 3491. ...	116
5.—Nāthukaraṇī or single nose-spoon ...	84, 116
6.—Yamaka Nāthukaraṇī or double nose-spoon ... ..	85, 117
7.—Nasal splints ... ..	117
8.—Langenbeck's nasal plugs (modern). A. S. Fig. 837. ...	117

# The Surgical Instruments of the Hindus.

Plate XXI.



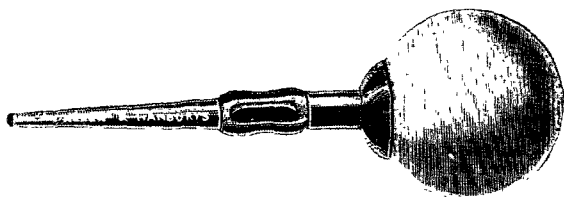
1



2



3



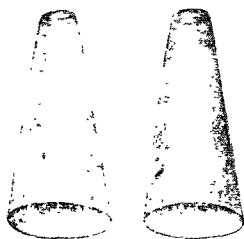
4



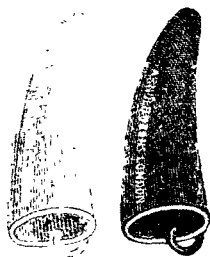
5



6



7



8

PLATE XXII.

THE NĀḌĪ YANTRA OR TUBULAR INSTRUMENTS.

TUBULAR INSTRUMENTS FOR FINGER.

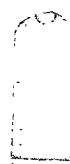
FIGURE.		PAGE.
1.—	Anguli Trāṇaka or Finger-guard ...	118
2.—	Angulī Yantra or Finger-guard, after Thakore Saheb ...	118
3.—	Finger-guard (modern) A. S. Fig. 805.	118
4.—	Finger-guard (modern) A. H. Fig. 2326.	118

# The Surgical Instruments of the Hindus.

## Plate XXII.



1



2



3



4



PLATE XXIII.

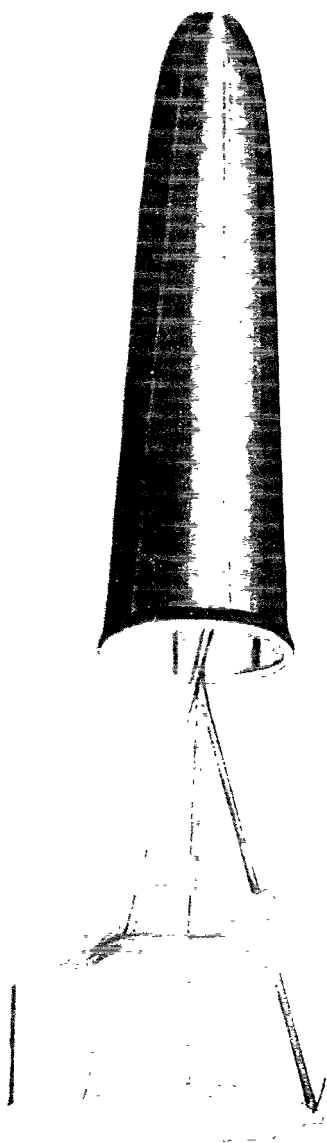
NĀḍĪ YANTRĀ OR TUBULAR INSTRUMENTS.

TUBULAR INSTRUMENTS FOR VAGINA.

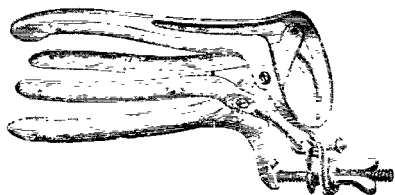
FIGURE.		PAGE.
1.—Joni-Vraṇekṣaṇa or Vaginal Speculum	..	119
2.—Nott's Quadrivalve Speculum (modern)		
K. S. Fig. 8847.	... ..	119
3.—Yonyāvekṣaṇa Yantra or Bivalve speculum, after		
Thakore Saheb	... ..	119
4.—Fergusson's Vaginal Speculum. A. H. Fig. 6103		119

# The Surgical Instruments of the Hindus.

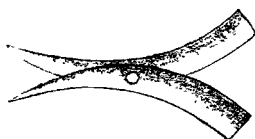
Plate XXIII.



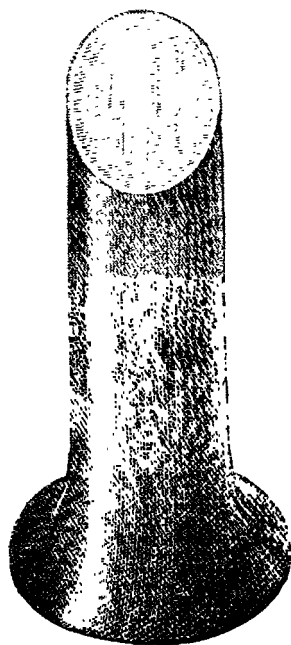
1



2



3



4

PLATE XXIV.

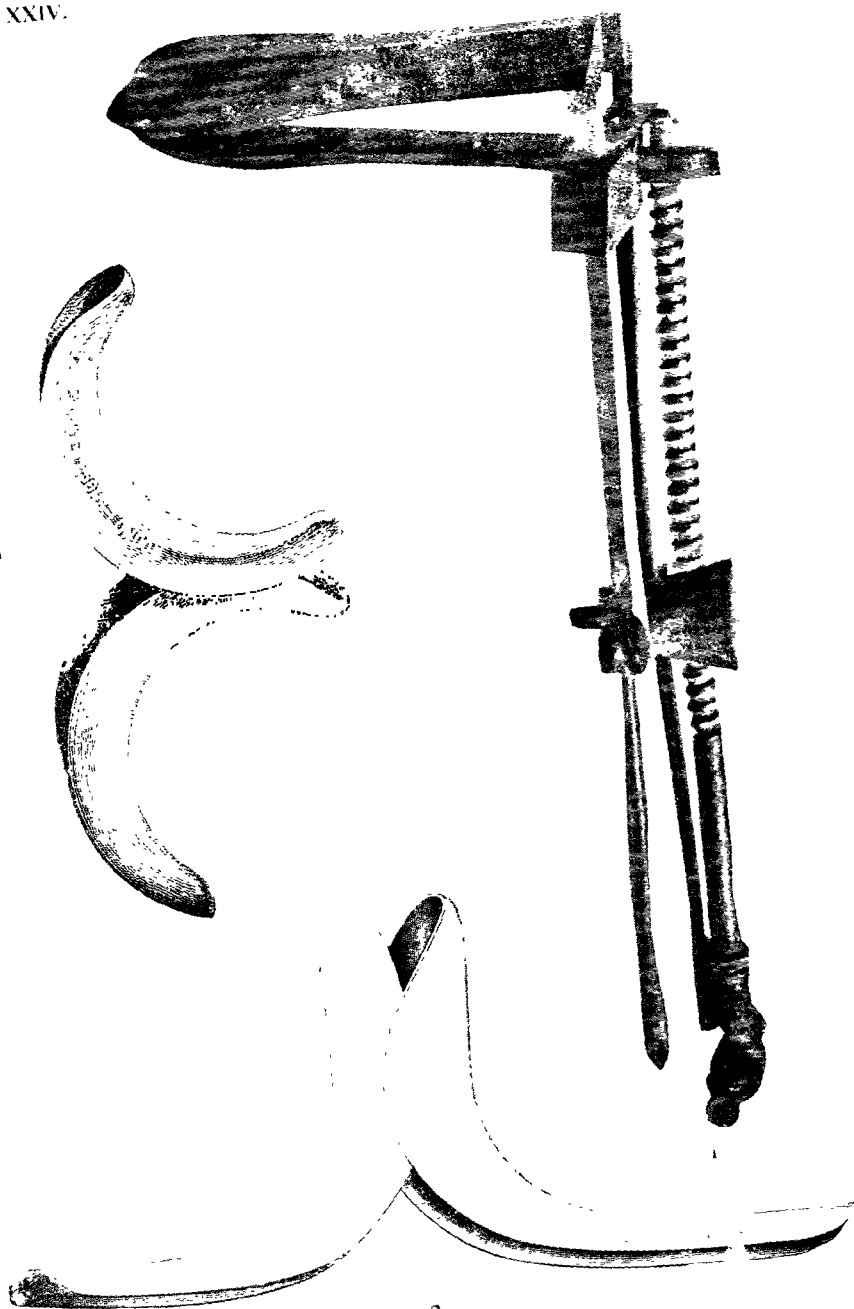
THE NĀḍĪ YANTRA OR TUBULAR INSTRUMENTS.

TUBULAR INSTRUMENTS FOR VAGINA.

FIGURE.	PAGE.
1.—Trivalve Vaginal Speculum, after Milne. Pl. XLVIII. (Naples Museum) ...	119
2.—Barnes' Speculum. A. S. Fig. 1648. ...	119
3.—Neugebaur's Vaginal Speculum. A. H. Fig. 6103.	119

# The Surgical Instruments of the Hindus

Plate XXIV.



THE SURGICAL INSTRUMENTS OF THE HINDUS.

PLATE XXV.

NĀDĪ YANTRA OR TUBULAR INSTRUMENTS.

TUBULAR INSTRUMENTS FOR WOUND.

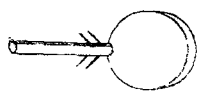
FIGURE.		PAGE.
1.—Vraṇa-Vastī or Wound-Syringe	...	121
2.—Vrinapraksalana Yantra, after Thakore Saheb	...	121
3.—Wound-Syringe (modern) A. S. Fig. 2790.	...	121

# The Surgical Instruments of the Hindus.

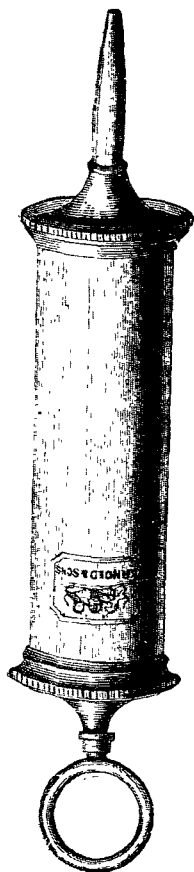
Plate XXV.



1



2



3

PLATE XXVI.

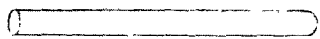
THE NĀḌĪ YANTRA OR TUBULAR INSTRUMENTS.

Tubular Instruments for Ascites and Hydrocele. Canula.

FIGURE.	PAGE.
1.—Dākodara Yantra or Canula for Paracentesis Abdominis . . . . .	122
2.—Jalodara Yantra or Canula, after Thakore Saheb . . . . .	122
3.—Canula (Naples Museum), after Milne Pl. XXXIX. Fig. 2. . . . .	122
4.—Trocar and Canula. Paracentesis abdominis. (modern) A. S. Fig. 1441 . . . . .	123
5.—Hydrocele Canula . . . . .	123
6.—Hydrocele Trocar and Canula (modern) A. S. Fig. 1436. . . . .	123

# The Surgical Instruments of the Hindus.

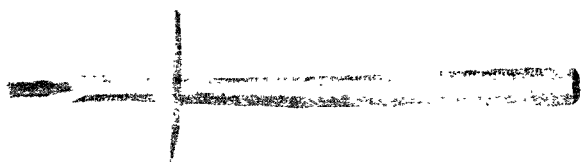
Plate XXVI.



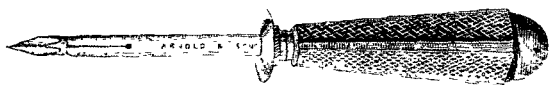
1



2



3



4



5



6



PLATE XXVII.

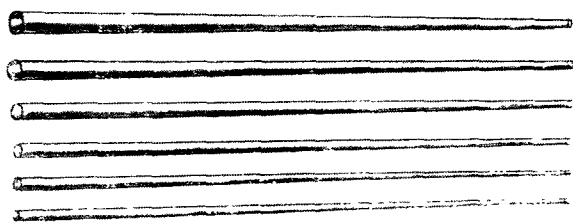
THE NĀḌĪ YANTRA OF TUBULAR INSTRUMENTS.

TUBULAR INSTRUMENTS FOR URETHRAL STRICTURE.

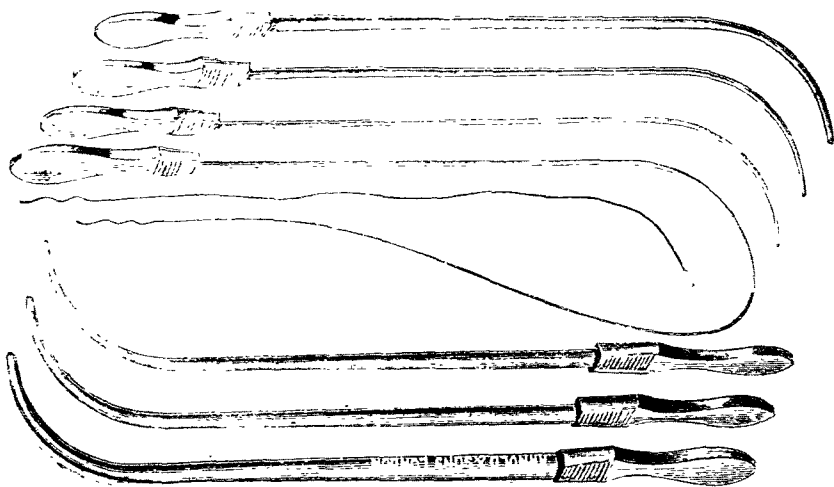
FIGURE.	PAGE.
1.—Urethral Stricture Dilators ...	123
2.—Bruce Clarke's Bougies. Set of seven, steel, tapering, A. S. Fig. 2246 and 2247. ...	125

# The Surgical Instruments of the Hindus.

Plate XXVII.



1



2

PLATE XXVIII.

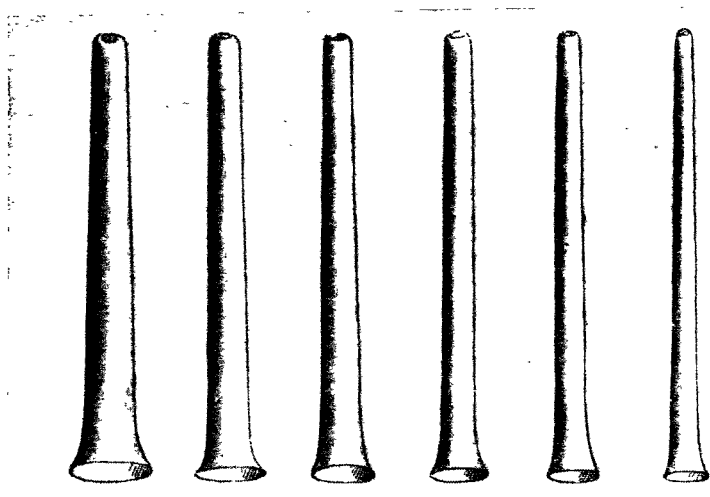
THE NĀḌĪ YANTRA OR TUBULAR INSTRUMENTS.

TUBULAR INSTRUMENT FOR RECTAL STRICTURE.

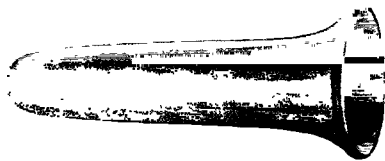
FIGURE.	PAGE.
1.—Rectal Dilators . . .	124
2.—Rectal Dilators, different sizes . . .	124
3.—Cripp's Rectal Dilators. A. S. Fig. 2335. . .	125

# The Surgical Instruments of the Hindus.

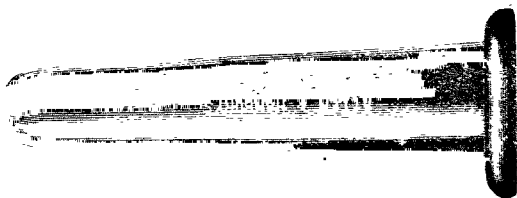
Plate XXVIII.



1



2



3

PLATE XXIX.

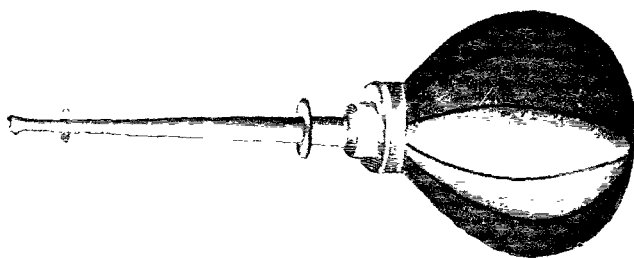
THE NĀDI YANTRA OR TUBULAR INSTRUMENTS.

VASTI YANTRA OR RECTAL CLYSTER.

FIGURE.	PAGE.
1.—Vasti-Yantra or Rectal Clyster	129
2.—The same, after Thakore Saheb	129
3.—Enema Syringe (modern) A. H. Fig. 6624.	129
4.—Suvasti Yantra, or Rectal Clyster (Veterinary)	131

# The Surgical Instruments of the Hindus.

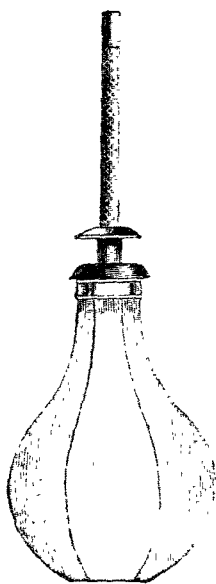
Plate XXIX.



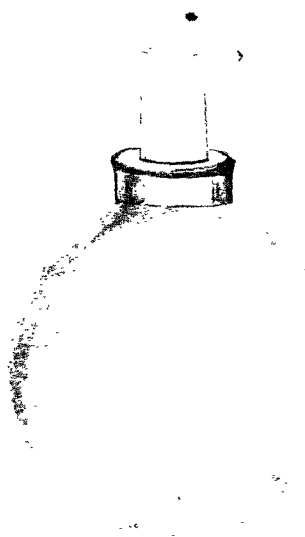
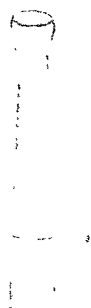
1



2



3



4

PLATE XXX.

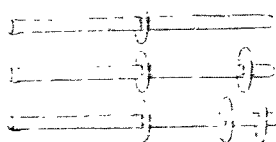
THE NĀDĪ YANTRA OR TUBULAR INSTRUMENTS.  
UTTARA-VASTI.

TUBULAR INSTRUMENTS FOR THE URETHRA.

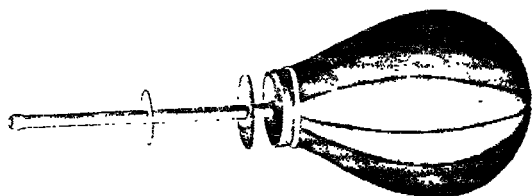
FIGURE.	PAGE.
1.—Puṣpanetra with one, two and three projec- tions .. .. .	135, 136
2.—Uttaravasti for Urethra or Urethral Syringe, male . . . . .	136
3.—The same, female .. . . .	.. 136
4.—Urethral Syringe (modern). A. H. Fig. 3869. ..	136
5.—Uttara-Suvasti (Veterinary). ...	... 131

# The Surgical Instruments of the Hindus.

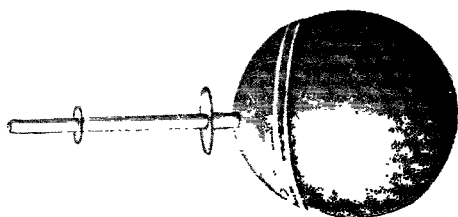
Plate XXX.



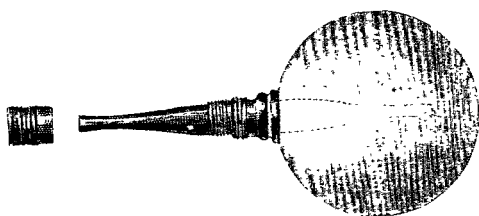
1



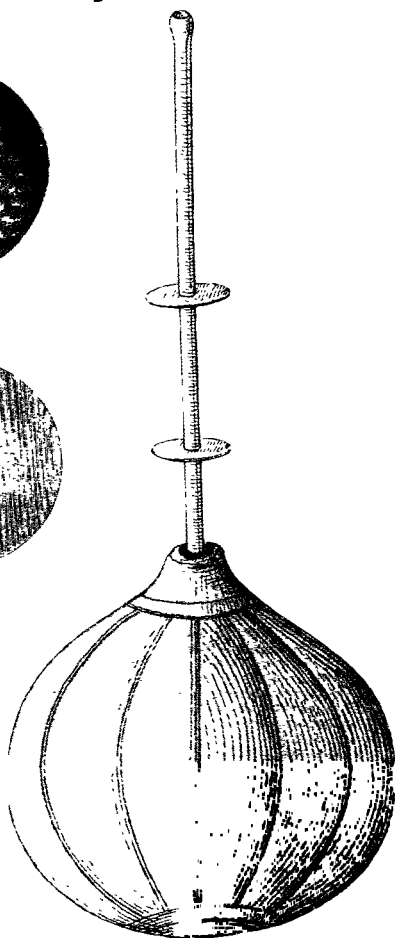
2



3



4



5



THE SURGICAL INSTRUMENTS OF THE HINDUS.

PLATE XXXI.

THE NĀḌĪ YANTRA OR TUBULAR INSTRUMENTS.

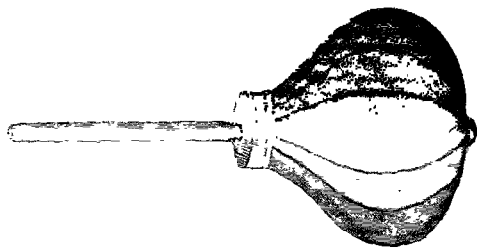
UTTARAVASTI.

TUBULAR INSTRUMENTS FOR VAGINA AND UTERUS.

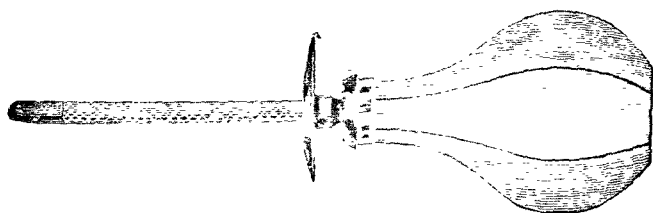
FIGURE.	PAGE.
1.—Vaginal Syringe . . .	138
2.—Vaginal Syringe (modern). A. H. Fig. 6626 . . .	138
3.—The same. A. S. Fig. 2443. . .	138
4.—Uterine tube . . .	139
5.—Uterine tube (Budin's) A. S. Fig. 1801 . .	139
6.—Uterine Syringe . . . . .	139

# The Surgical Instruments of the Hindus.

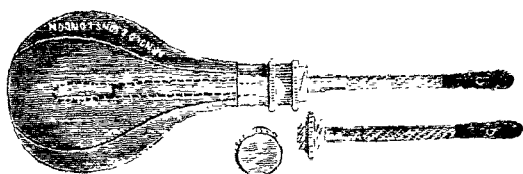
Plate XXXI.



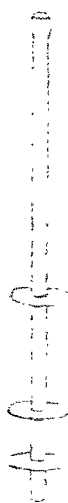
1



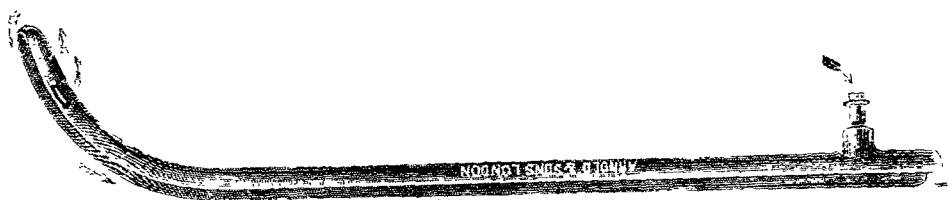
2



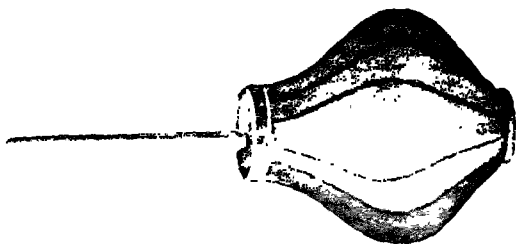
3



4



5



6

PLATE XXXII.

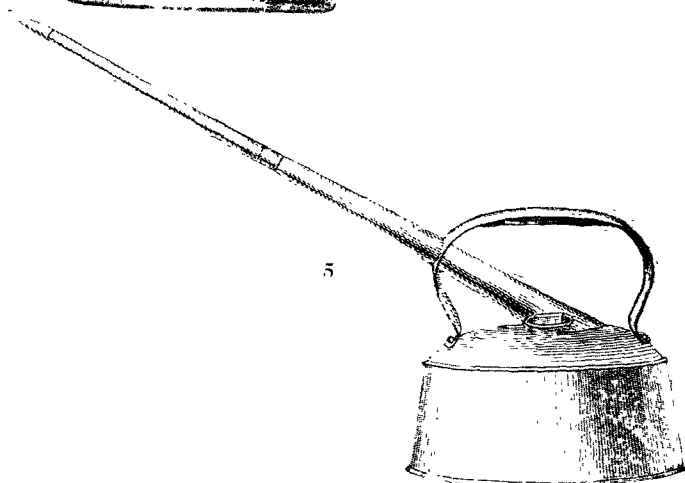
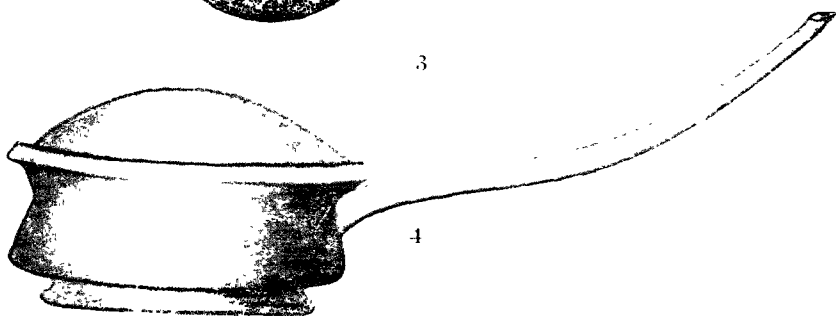
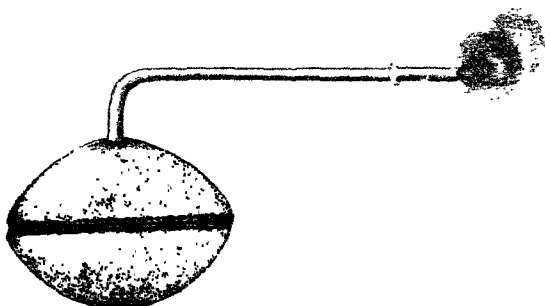
THE NĀḌĪ YANTRA OR TUBULAR INSTRUMENTS.

TUBULAR INSTRUMENTS FOR INHALATION AND FUMIGATION.

FIGURE.	PAGE.
1.—Dhūmanāḥī or tube for smoking ...	140
2.—Dhūmanāḥī or tube of medicinal paste ...	141
3.—Mallaka Saṁputa or Śarāba Saṁputa. The fumigator for inhalation, wound fumi- gation, and vaginal and uterine fumigation ...	142
4.—The fumigator, after Hippocrates and Śārṅgdhara	146, 322
5.—Bronchitis kettle (modern) B. B. Fig. 401.	145

# The Surgical Instruments of the Hindus.

Plate XXXII.



# THE SURGICAL INSTRUMENTS OF THE HINDUS.

## PLATE XXXIII.

### THE NĀḌĪ YANTRA OR TUBULAR INSTRUMENTS.

#### TUBULAR INSTRUMENTS FOR CUPPING.

FIGURE.	PAGE.
1.—Sṛṅga or Horn ...	148
2.—Cupping horns as used in Kordofan, Wellcome. Fig. 200. ...	156
3.—Alābu Yantra or Gourd ...	156
4.—Cupping glass (modern) B. B. Fig. 281.	157
5.—Ghaṭī Yantra ...	157

# The Surgical Instruments of the Hindus.

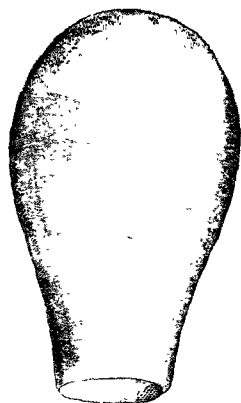
Plate XXXIII.



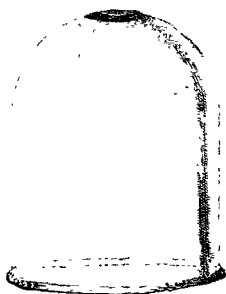
1



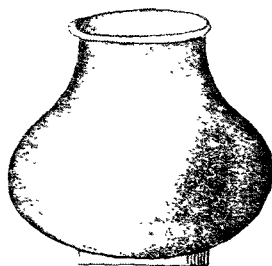
2



3



4



5

PLATE XXXIV.

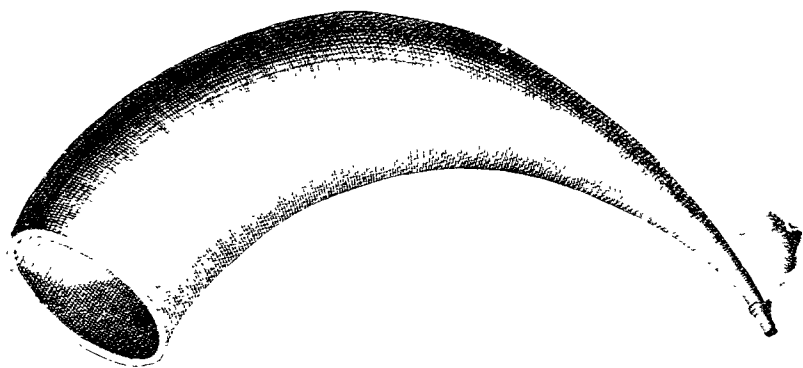
THE NĀḌĪ YANTRA OR TUBULAR INSTRUMENTS:

TUBULAR INSTRUMENTS FOR CUPPING.

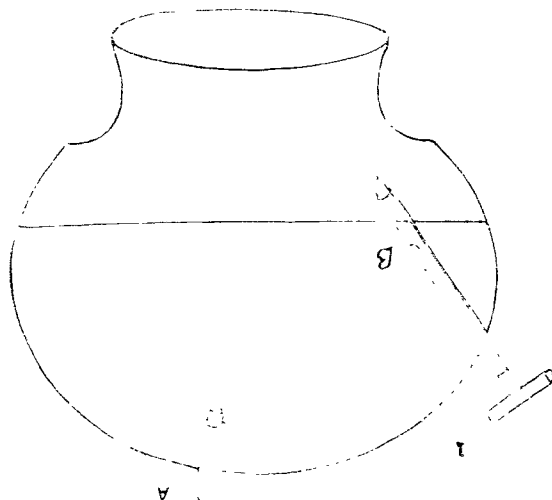
FIGURE.	PAGE
1.—Egyptian cupping horn, Milne after Alpinus. Pl. XXXV.II Fig. 1. ...	153
2.—Alexandrian Cup, Milne after Hero. Pl. XXXVII. Fig. 2. ...	153

# The Surgical Instruments of the Hindus.

Plate XXXIV.



1



A

B

1

2



PLATE XXXV.

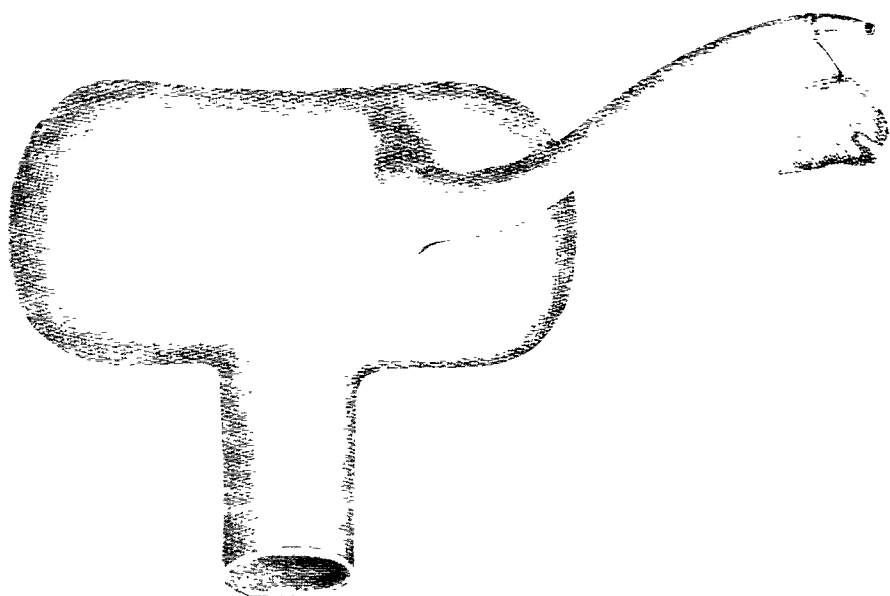
THE NĀḌĪ YANTRA OR TUBULAR INSTRUMENTS.

TUBULAR INSTRUMENTS FOR CUPPING.

FIGURE.	PAGE.
1.—Cup illustrated by Alpinus. Milne Pl. XXXVI.	
Fig. 2. . . . .	153
2.—Greek Cup. (Naples Museum). Milne	
Pl. XXXV. . . . .	153

# The Surgical Instruments of the Hindus.

Plate XXXV.



1



2

PLATE XXXVI.

ŚALĀKĀ OR RODS.

FIGURE.	PAGE.
1.—Gaṇḍupada Śalā or Earthworm probe ..	155
2.—Śarapuṅkha Śalā or Arrow-wing probe ..	155
3.—Sarpafaṇā Śalā or Snake's hood probe ..	156
4.—Vaḍiśa śalā or Fish-hook probe ..	156
5.—Masūradala-baktra Śplā or Masūra-pulse probe ...	157
6.—Pramārjana Śalā or Swab probe ..	157
7.—Swab probe with Aural Scoop. (modern). A. H. Fig. 2037 ...	157
8.—Spathomele or spatula probe of the Greeks. Milne, Plate XII. Fig. 3. ...	157

# The Surgical Instruments of the Hdinus.

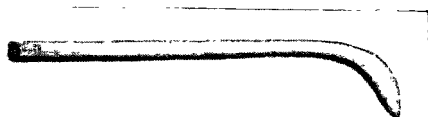
Plate XXXVI.



1



2



3



4



6



7



8

PLATE XXXVII.

ŚALĀKĀ OR RODS.

FIGURE.	PAGE.
1.—Darbhākṛti Khallamukha Śalā or Spoon-shaped probe ...	158
2.—Darvyākṛti Śalā, after Thakore Saheb ..	158
3.—Nakha-mukha Śalā or Nail-shaped probe ..	159
4.—Jāmvavoustha Śalā or Jāmbula probe ...	159
5.—Aṅkuśa Śalā or goad probe ..	159
6.—Kolāsthidala Śalā or Jujube probe ...	160
7.—Cyathiscomele. Milne. Pl. XIV. Fig.3. ...	160



# The Surgical Instruments of the Hindus.

Plate XXXVII

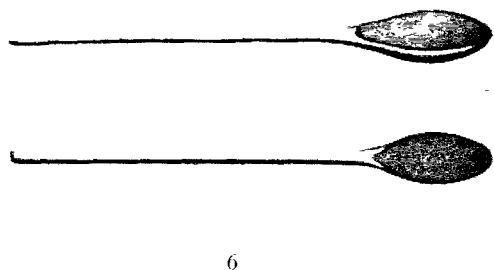
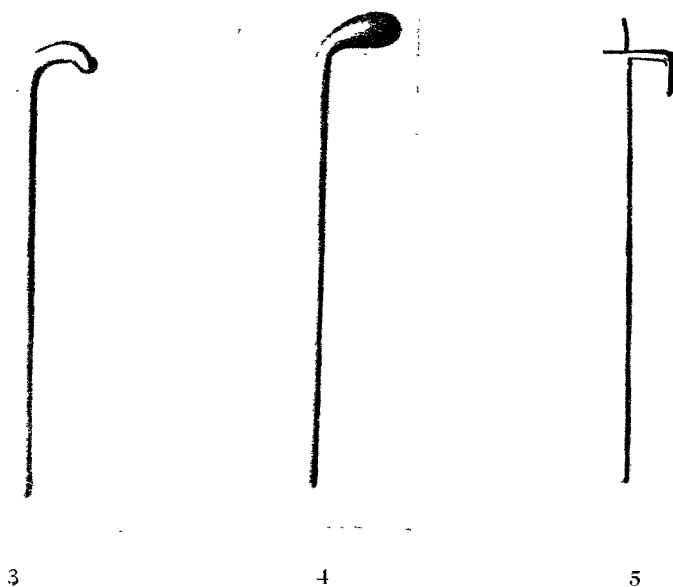
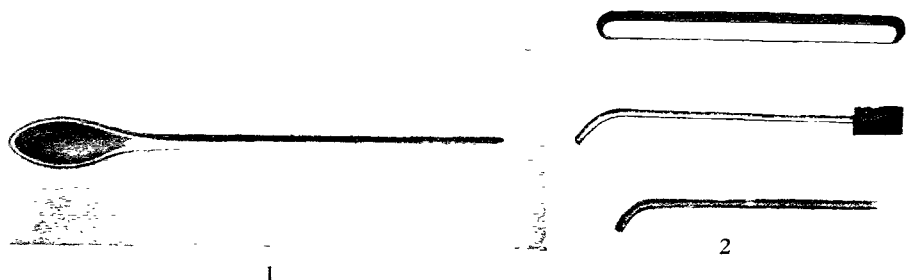


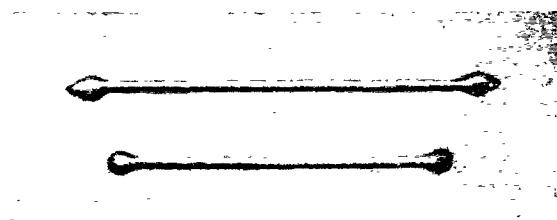
PLATE XXXVIII.

ŚALĀKĀ OR RODS.

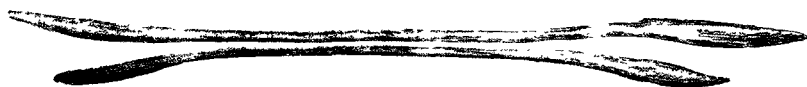
FIGURE.	PAGE.
1.—Mukulāgra Śalā or Bud-shaped collyrium probe ... ..	160
2.—Ancient collyrium probes found in the Bibat excavations. Princep. Pl. IV. Fig. 18. .	162
3.—Greek specillum with olivary end. Milne. Pl. XI. fig. 5. . . . .	163
4.—Karṇā Śodhana or Ear cleaner . . . . .	163
5.—Director with scoop (modern) A. S. Fig. 278. . . . .	164
6.—Śalākā Yantra, after Thakore Saheb ... ..	162
7.—Snuhi Yantra, after Thakore Saheb .. . . .	162

# The Surgical Instruments of the Hindus.

Plate XXXVIII.



1



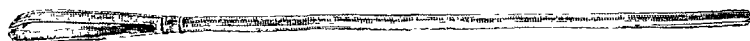
2



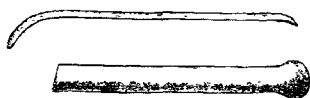
3



4



5



6



7



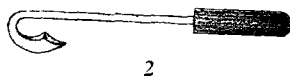
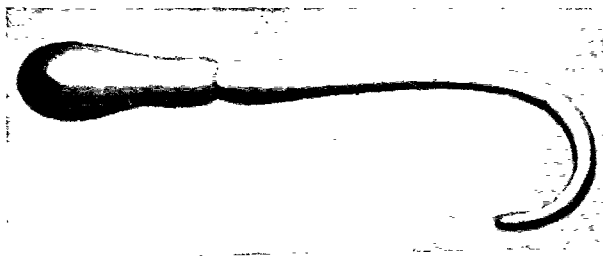
PLATE XXXIX.

ŚALĀKĀ OR RODS

FIGURE.	PAGE.
1.—Garbha Śaṅku or Fœtus or Traction hook ..	165
2.—The same, after Thakore Saheb ..	165
3.—Barnes' Blunt hook (modern) A. S. Fig. 2031. . .	166
4.—Śaṅku Yantra, after Thakore Saheb ...	165
5.—Yugma Śaṅku, or Midwifery forceps, after Thakore Saheb ...	166
6.—Anderson's Midwifery Forceps (modern) A. S. Fig. 1964. ...	167

# The Surgical Instruments of the Hindus.

Plate XXXIX.



2



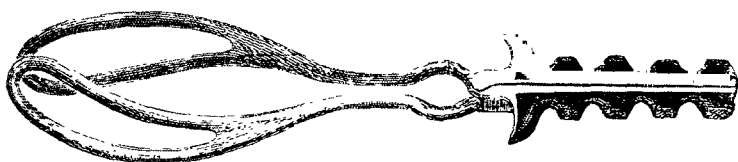
3



4



5



6

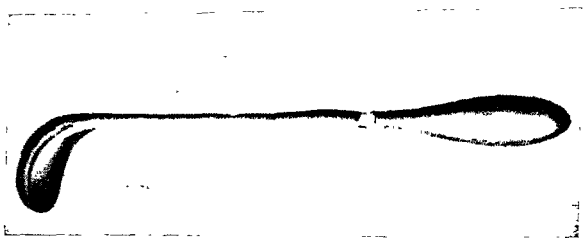
PLATE XL.

ŚALĀKĀ OR RODS.

FIGURE.	PAGE.
1.—Agrabakra or Sarpafanā Śalā or Snake's hood probe . . . . .	168
2.—Aśmariharana Yantra or Stone extractor, after Thakore Saheb . . . . .	168
3.—Erichsen's Lithotomy Scoop, A. S. Fig. 2474 . . . . .	169
4.—Lithotomy forceps (modern) A. S. Fig. 2446. . . . .	169
5.—Śarapuñkhamukha Śalā or Tooth-elevator . . . . .	171
6.—Tooth Elevator, after Thakore Saheb . . . . .	171
7.—Tooth Elevator (modern) A. S. Fig. 1404. . . . .	171

# The Surgical Instruments of the Hindus.

Plate XL.



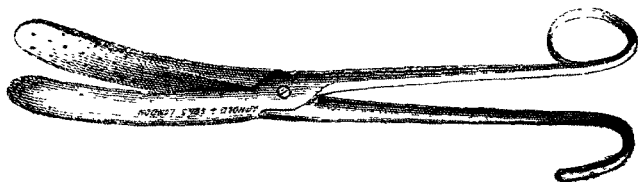
1



2



3



4



5



6



7

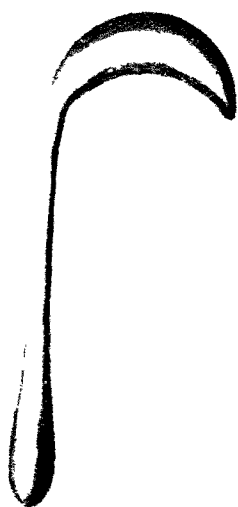
PLATE XLI.

ŚALĀKĀ OR RODS.

FIGURE.		PAGE.
1.—Ardhacandramukha probe	Śalā or Half-moon .. ..	171
2.—Muṣala or Pestle	... ..	172
3.—Urethral Probe (Suśruta)	... ..	174
4.—Urethral Probe (Caraka)	... ..	174
5.—Urethral Bougie (modern) A. S. fig. 2241	... ..	174
6.—Urethral Bougie (modern) A. S. Fig. 2233.	... ..	174

# The Surgical Instruments of the Hindus.

Plate XLI.



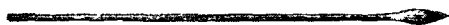
1



2



3



4



5



6

PLATE XLII.

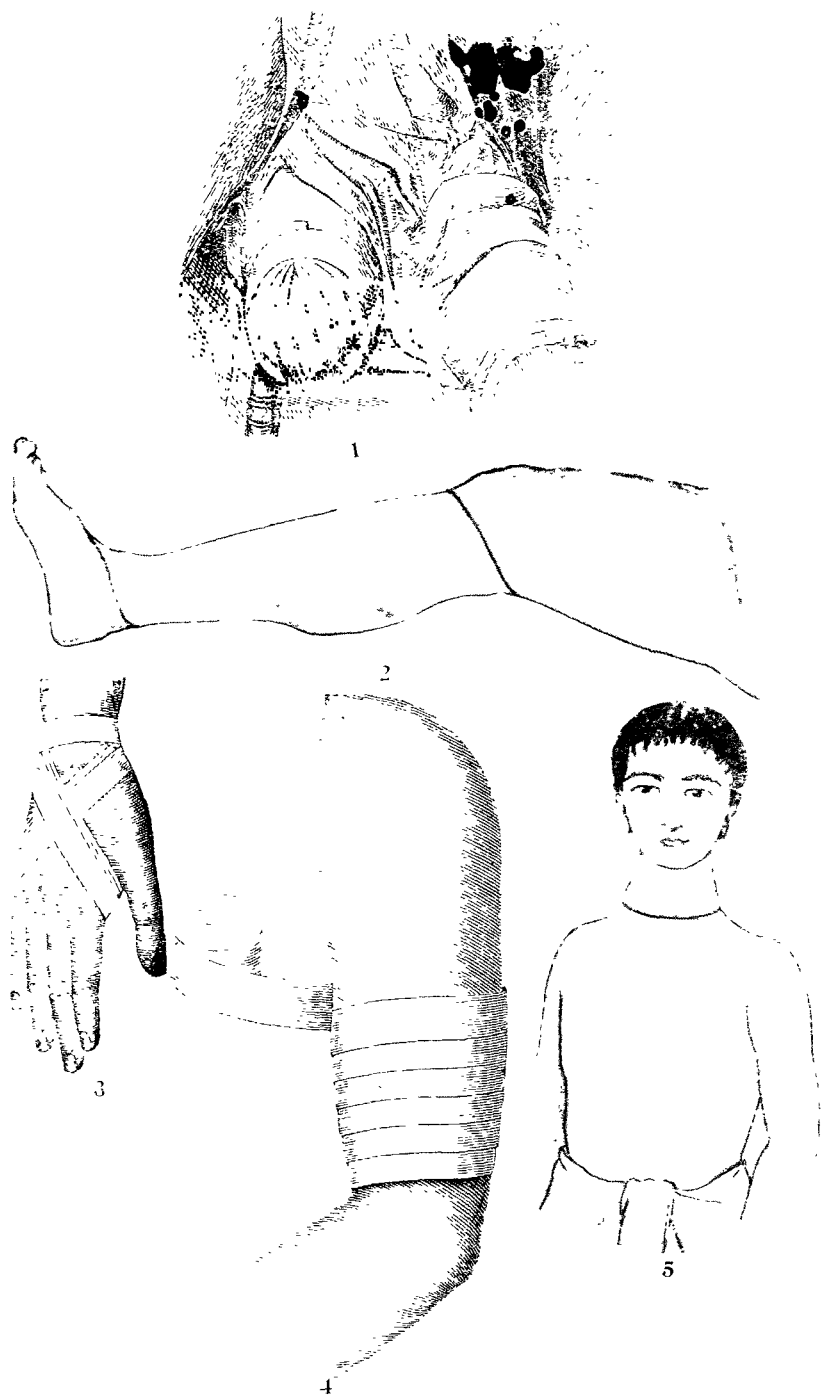
UPAYANTRA OR ACCESSORY INSTRUMENTS.

PATTA OR BANDAGES.

FIGURE.	PAGE.
1.—Kośa or Sheath. Heath. Fig. 11.	177
2.—Dāma .. .. .	177
3.—Svastika or Circular Cross Bandage. Esmarch. Fig. 33. . . . .	177
4.—Anuvellita or Encircling Bandage. Esmarch. Fig. 27. . . . .	177
5.—Protolī . . . . .	177

# The Surgical Instruments of the Hindus.

Plate XLII.





# THE SURGICAL INSTRUMENTS OF THE HINDUS.

## PLATE XLIII.

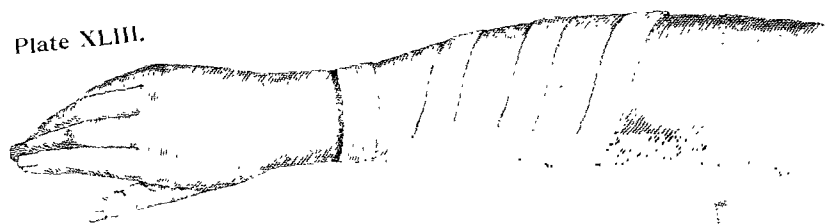
### UPAYANTRA OR ACCESSORY INSTRUMENTS.

#### PATTA OR BANDAGES.

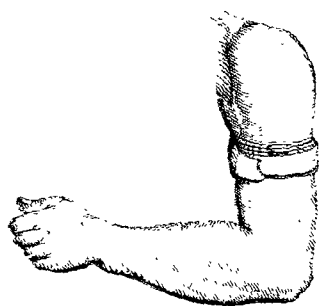
FIGURE.		PAGE.
1.—Mandala or Circular Bandage. Esmarch. Fig. 28. ...		177
2.—The same, Greek. Adams. Vol. II. Pl. VI. Fig. 1 ...		177
3.—Sthagikā or Supporter ...	...	178
4.—Yamaka or Double Bandage ...	...	178

# The Surgical Instruments of the Hindus.

Plate XLIII.



1



2



3



4

PLATE XLIV.

UPAYANTRA OR ACCESSORY INSTRUMENTS.

PATṬA OR BANDAGES.

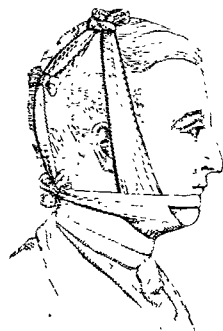
FIGURE.		PAGE.
1.—Khattā or four-tailed bandage	...	178
2.—The same. Greek. C. C. G. Pl. XLIV	...	178
3.—The same (modern). Swain. Fig. 13	...	178
4.—Cīna or banner bandage. Esmarch. Fig. 101.	...	178

# The Surgical Instruments of the Hindus.

Plate XLIV.



1



2

*Junctura ad mentum*



XXX

3



4

PLATE XLV.

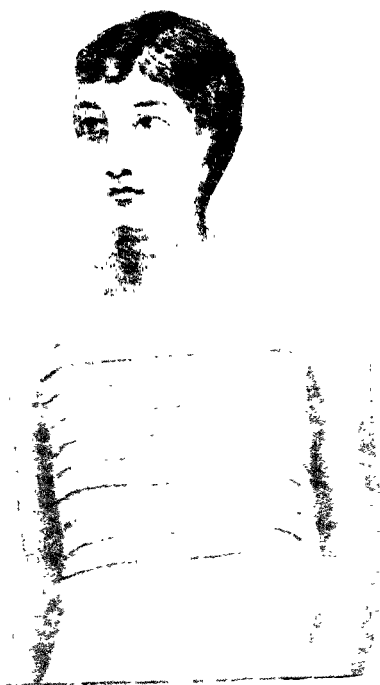
UPAYANTRA OR ACCESSORY INSTRUMENTS.

PAṬṬA OR BANDAGES.

FIGURE.	PAGE.
1.—Vivandha or circular chest bandage ...	.. 178
2.—Vitāna or canopy bandage. Esmarch. Fig. 92 ..	178
3.—Gophaṇā or sling. Esmarch. Fig. 102. .	.. 178
4.—Pancāṅgī or five tailed bandage ...	.. 179
5.—The same. Greek. C. C. G. Pl. LIII.	... 179

# The Surgical Instruments of the Hindus.

Plate XLV.



1



2



3



4



5

# THE SURGICAL INSTRUMENTS OF THE HINDUS.

## PLATE XLVI.

### UPAYANTRA OR ACCESSORY INSTRUMENTS.

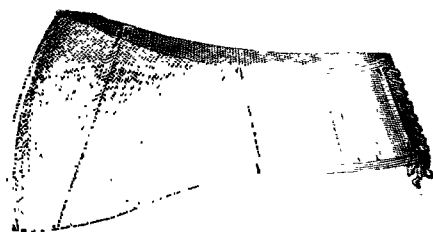
FIGURE.	PAGE.
1.—Udara ve-ṣṭa or Abdominal Binder ...	181
2.—Abdominal Binder (modern) A. H. Fig. 8170 ..	181
3.—Hair cover before operation ... ..	183
4.—Leather sling ... ..	184
5.—Leather bandage for prolapse of the Rectum ..	184
6.—Leather ligature .. ..	146

# The Surgical Instruments of the Hindus.

Plate XLVI.



1



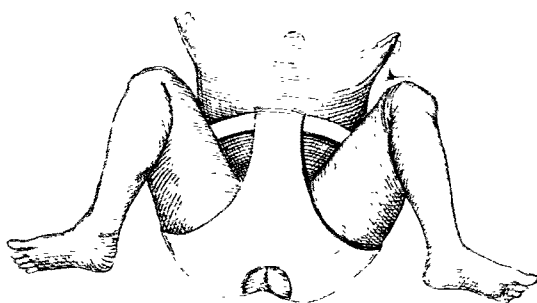
2



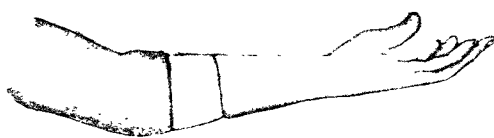
3



4



5



6



PLATE XLVII.

UPAYANTRA OR ACCESSORY INSTRUMENTS.

FIGURE.		PAGE.
1.—	Field hospital (modern) Porter. Fig 28	181

# The Surgical Instruments of the Hindus.

Plate XLVII.

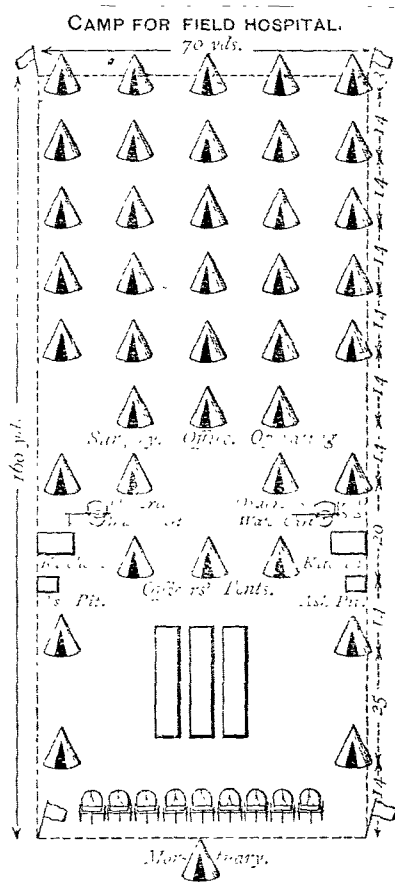


PLATE XLVIII.

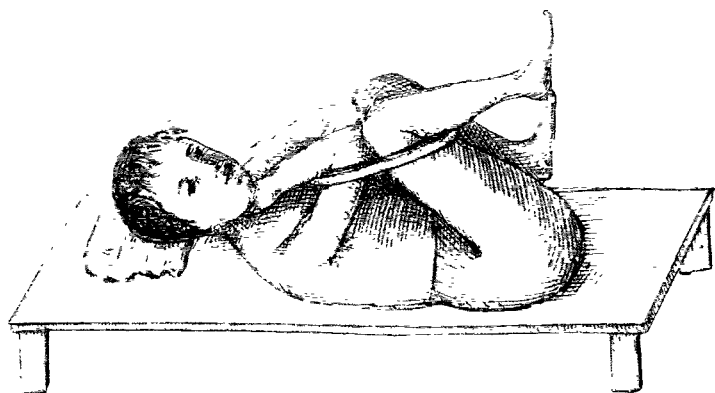
UPAYANTRA OR ACCESSORY INSTRUMENTS.

YANTRA-ŚĀṬAKA OR BINDING APPARATUS.

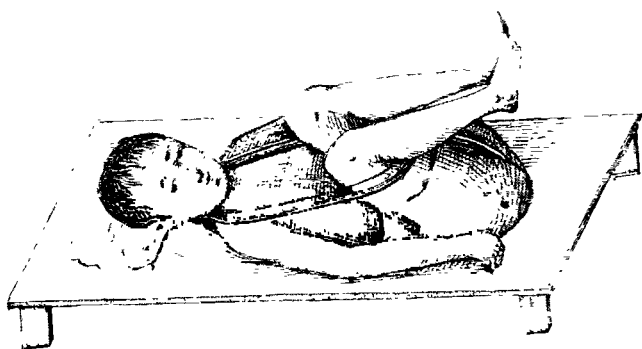
FIGURE.	PAGE.
1.—Yantra Śāṭaka or Lithotomy apparatus	185
2.—Yantra Śāṭaka or Binding apparatus for pile	186
3.—Yantra Śāṭaka or Binding apparatus for phlebotomy	186

# The Surgical Instruments of the Hindus.

Plate XLVIII



1



2



3

# THE SURGICAL INSTRUMENTS OF THE HINDUS.

## PLATE XLIX.

### UPAYANTRA OR ACCESSORY INSTRUMENTS.

#### Yatra Śātaka or Binding Apparatus.

FIGURE.		PAGE.
1.—	Binding apparatus of the Greeks, C. C. G. Pl. LXIX	187
2.—	The same „ Pl. LXX	187
3.—	Lithotomy Strap (Cripp's). A. S. Fig. 2509. ...	187

The Surgical Instruments of the Hindus.  
 Plate XLIX.

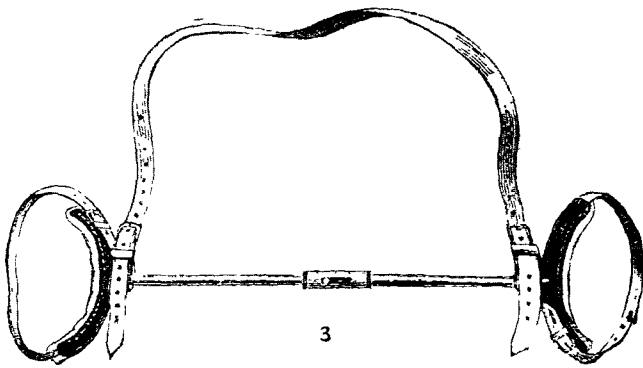
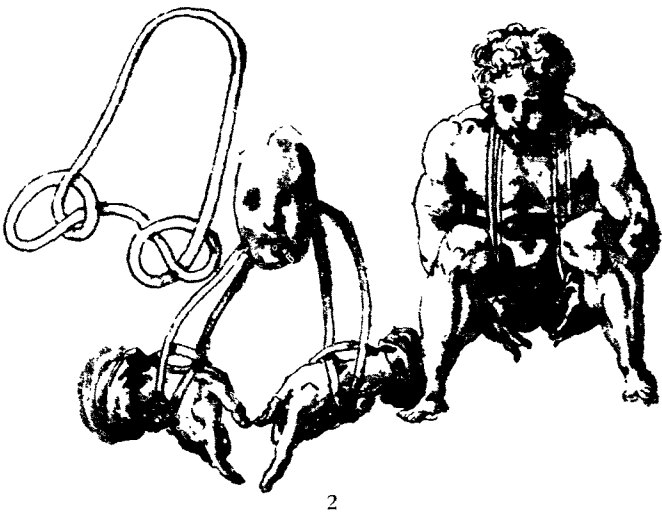
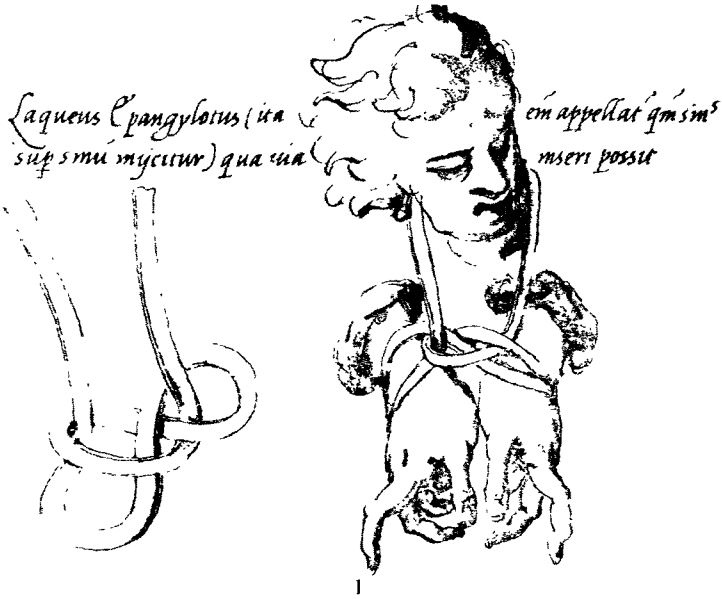


PLATE L.

UPAYANTRA OR ACCESSORY INSTRUMENTS.

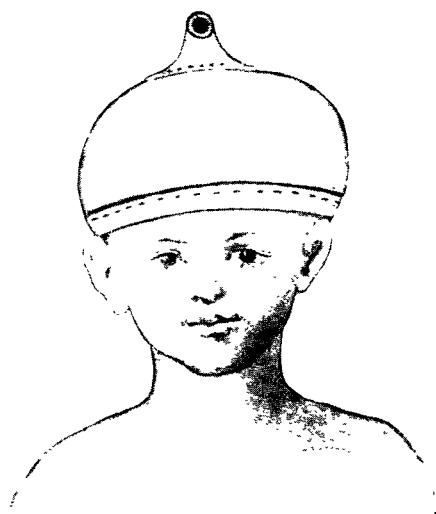
FIGURE.	PAGE.
1.—Śiro-v-sti or Leather bag for the head (Śiruta) ... ..	188
2.—The same (Śārigadhara) ... ..	189
3.—Ice bag for head (conical) A. H. Fig. 8282 ...	188
4.—Ice bag (Round). A. H. Fig. 8293 ...	188

# The Surgical Instruments of the Hindus.

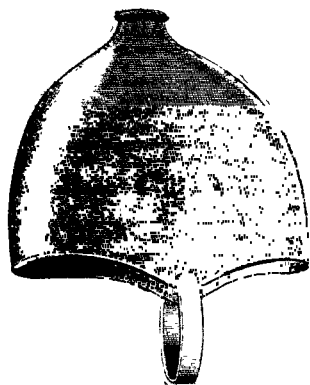
Plate L.



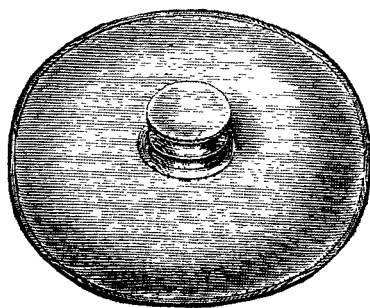
1



2



3



4



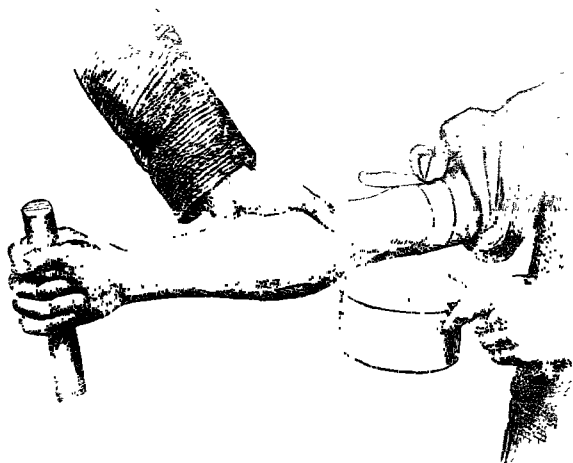
PLATE LI.

UPAYANTRA OR ACCESSORY INSTRUMENTS.

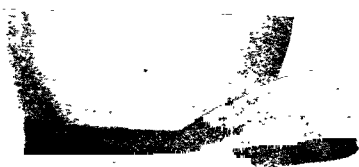
FIGURE.	PAGE.
1.—Leather band for phlebotomy at the elbow	... 190
2.—Band for phlebotomy. Esmarch. Pl. XXIII.	... 190

# The Surgical Instruments of the Hindus.

Plate LI.



1



2

# THE SURGICAL INSTRUMENTS OF THE HINDUS.

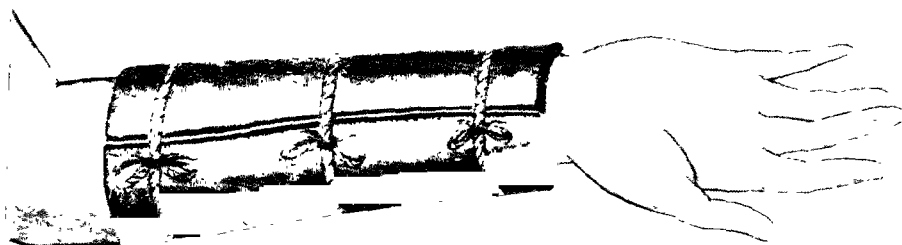
## PLATE LII.

### UPAYANTRA OR ACCESSORY INSTRUMENTS.

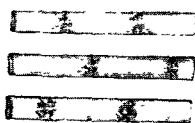
FIGURE.		PAGE.
1.—Bark splint ...	...	193
2.—Bamboo strips ...	...	194
3.—Splints of the Greeks. Adams. Vol. II. Pl. VIII.		
Fig. 1 ...	...	193
209.—The same ...	„ „ „ Fig. 2	193

# The Surgical Instruments of the Hindus.

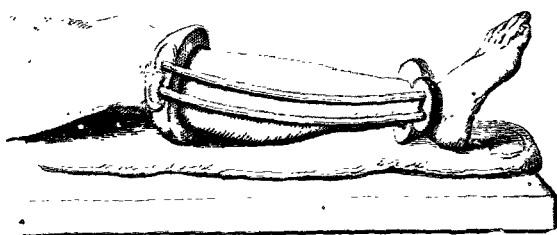
Plate LII.



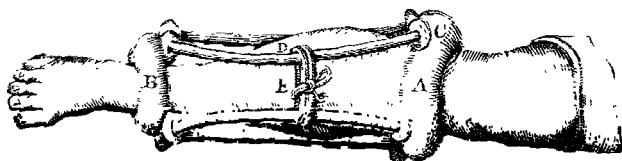
1



2



3



4

THE SURGICAL INSTRUMENTS OF THE HINDUS.

PLATE LIII.

UPAYANTRA OR ACCESSORY INSTRUMENTS.

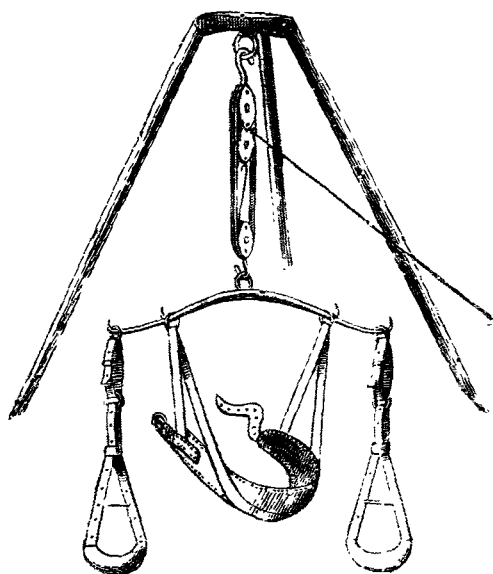
FIGURE.		PAGE.
1.—	Reduction of dislocation of the neck ...	194
2.—	Sayre's Suspension apparatus. A. S. Fig. 2997. ...	194
3.—	Jury mast. A. S. Fig. 2998. ...	194

# The Surgical Instruments of the Hindus.

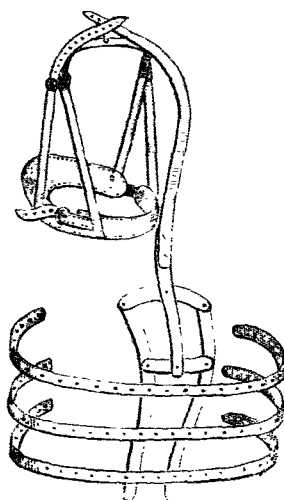
Plate LIII.



1



2



3

# THE SURGICAL INSTRUMENTS OF THE HINDUS.

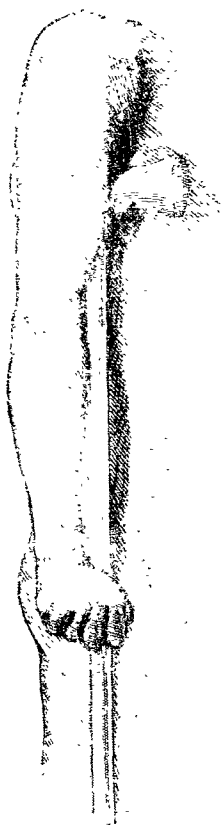
## PLATE LIV.

### UPAYANTRA OR ACCESSORY INSTRUMENTS.

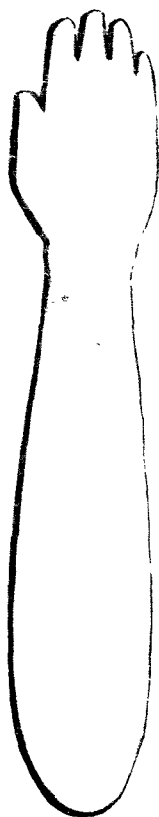
FIGURE.	PAGE.
1.—Crutch (modern) A. S. Fig. 3061 ...	195
2.—Wooden splint for hand ...	196
3.—The same (modern) (Pemberton's) A. H. Fig. 7456 ...	196
4.—Stone Roller ...	197, 198
5.—Mudgara or hammer ...	198
6.—The same. Greek. Adams. Vol. I. Pl. III. Fig. 5 ...	199

# The Surgical Instruments of the Hindus.

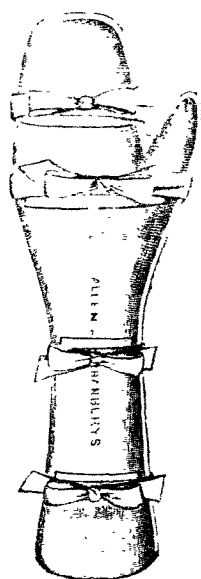
Plate LIV.



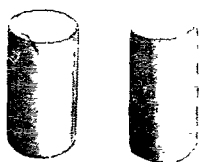
1



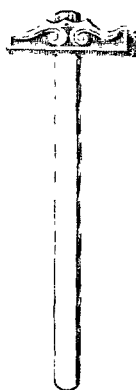
2



3



4



5



6



THE SURGICAL INSTRUMENTS OF THE HINDUS.

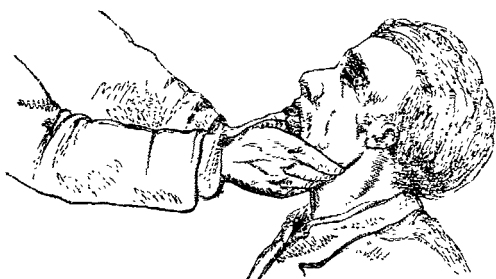
PLATE LV.

UPAYANTRA OR ACCESSORY INSTRUMENTS.

FIGURE.	PAGE.
1.—Reduction of dislocation of the lower jaw	... 201
2.—The same (modern). Erichsen. Vol. I. Fig. 243.	... 201

# The Surgical Instruments of the Hindus.

Plate LV.



THE SURGICAL INSTRUMENTS OF THE HINDUS.

PLATE LVI.

UPAYANTRA OR ACCESSORY INSTRUMENTS.

FIGURE.

PAGE.

1.—The same, after the Greeks. C. C. G. Pi. XIX ... 201

# The Surgical Instruments of the Hindus.

Plate LVI.

119



PLATE LVII.

UPAYANTRA OR ACCESSORY INSTRUMENTS.

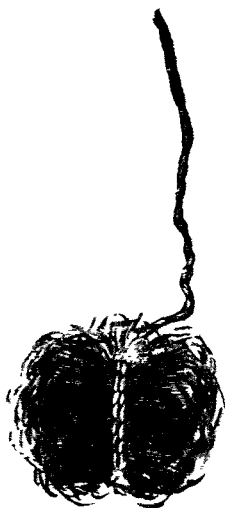
FIGURE.		PAGE.
1.—Vāla varti or Hair tents or drains	...	206
2.—Kesonduka or Hair bundle	...	206
3.—Probang (modern) A. H. Fig. 3267	...	207
4.—El Kamaia Anderson. Fig. 90. Wellcome	...	217

# The Surgical Instruments of the Hindus.

Plate LVII.



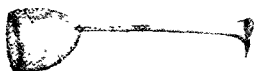
1



2



3



4

# PLATE LVIII.

## THE MAṆDALĀGRA ŚASTRA OR ROUND HEADED KNIFE.

FIGURE.	PAGE.
1.—Maṇdalāgra Sastra or Round headed knife (Suśruta) ... ..	225
2.—The same. After Wise ...	225
3.—The same, for eye operation (Suśruta) ...	226
4.—Knife for Plastic operation on eyelid (Albucasis). Milne. Pl. IX. Fig. 3 ...	228
5.—The embryotome (Albucasis). Milne, Pl. VIII Fig. 7 ... ..	226

# The Surgical Instruments of the Hindus.

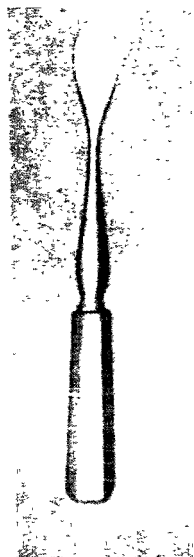
Plate LVIII.



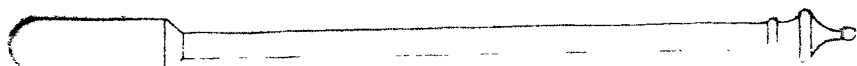
1



2



3



4



5



PLATE LIX.

THE MAṆḌALĀGRA ŚASTRA OR ROUND HEADED KNIFE.

FIGURE.	PAGE.
1.—Maṇḍalāgra Śastra or Round headed knife (Vāgbhata) ... ..	225
2.—The same. After Thakore Saheb ... ..	225
3.—Ramsbotham's Decapitating Hook. A. S. Fig. 2027	225
4.—Maṇḍalāgra Śastra or Razor-like round headed knife (Dallaṇa) ... ..	225

# The Surgical Instruments of the Hindus.

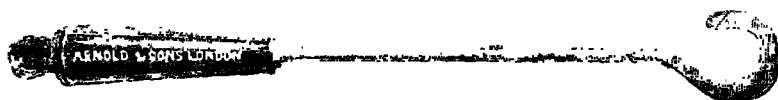
Plate LIX.



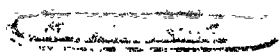
1



2



3



4

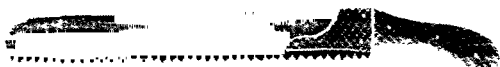
PLATE LX.

KARAPATRA ŚASTRA OR SAW.

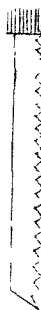
FIGURE.	PAGE-
1.—Karapatra or Saw ... ..	230
2.—The same. After Wise ... ..	230
3.—The same. After Thakore Sahab ... ..	230
4.—The saw as used by the Greeks. Milne, Pl. XLI. Fig. 3 ... ..	231
5.—The Saw (Modern) ... ..	231
6.—Trephine of the Greeks. Adams. Vol. I. Pl. I. Fig. 3	232
7.—The Trephine (Modern) A. H. Fig. 1145. ...	232

# The Surgical Instruments of the Hindus.

Plate LX.



1



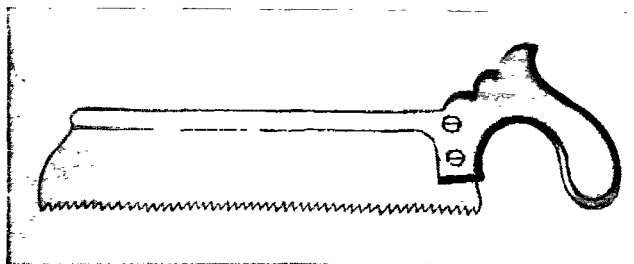
2



3



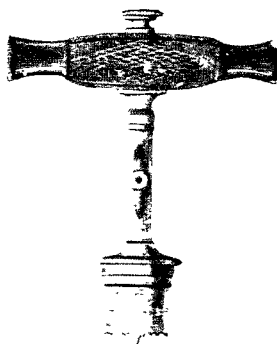
4



5



6



7

PLATE LXI.

VṚDDHIPATRA ŚASTRA OR KNIFE.

FIGURE.	PAGE
1.—Vṛddhipatra or Knife ... ..	233
2.—The same, curved. Dīrghavaktra or long mouthed ... ..	233
3.—The same, curved. Hrasvavaktra or short mouthed ... ..	233
4.—Vṛddhipatra knife. After Wise ... ..	233
5.—Vṛddhipatra knife. After Thakore Shaheb ... ..	233
6.—Syme's Abscess knife A. H. Fig. 430...	233

# The Surgical Instruments of the Hindus.

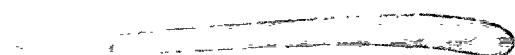
Plate LXI.



1



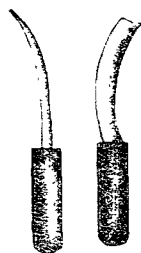
2



3



4



5



6

PLATE LXII.

NAKHA ŚASTRA OR NAIL PARER.

FIGURE.	PAGE.
1.—Nakha Śastra or Nail parer, straight and oblique ... ..	237
2.—The same. After Wise ... ..	237
3.—The same. After Thakore Sahab ... ..	237
4.—Nakha Śastra, a double instrument ... ..	237
5.—Rampaka ... ..	238
6.—Nail knife and cleaner A. H. Fig. 10244 ... ..	238

# he Surgical Instruments of the Hindus.

Plate LXII.



1



2



3



4



5



6



PLATE LXIII.

MUDRIKĀ ŚĀSTRA OR FINGER KNIFE.

FIGURE.	PAGE.
1.—Mudrikā or Anguli Śāstra or Finger knife (Vāgbhata) ... ..	238
2.—The same. After Thakore Saheb. ... ..	239
3.—The same. After Wise ... ..	239
4.—Simpson's Ring Scalpel ... ..	239
5.—Mayer's Ring-knife for the removal of adenoids from the nose. Waggett, Fig. 70 ... ..	239
6.—Finger knife, Veterinary (Modern) Milne. Pl. VII. Fig. 1 ... ..	210

# The Surgical Instruments of the Hindus.

Plate LXIII.



1



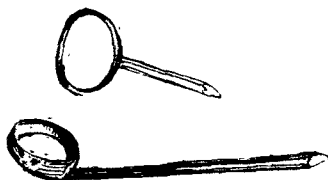
2



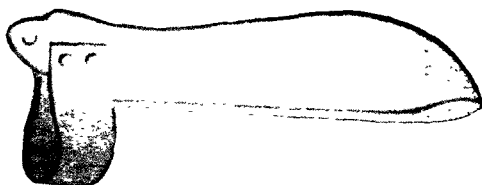
3



4



5



6

PLATE LXIV.

UTPALAPATRA ŚASTRA.

FIGURE.		PAGE.
1.—Utpalapatra Śastra or Phlebotome	...	241
2.—The same. After Wise	... ..	241
3.—The same. After Thakore Saheb.	... ..	241
4.—Myrtle leaf shaped knife used by the Greeks.		
Milne. Pl. VII. Fig 2	... ..	242
5.—Syme's knife for Ankle-joint. A. H. Fig. 253	... ..	242

ARDHADHĀRA ŚASTRA OR HALF-EDGED KNIFE.

6.—Ardhadhāra or Half-edged knife	... ..	243
7.—The same. After Wise	... ..	243
8.—The same. After Thakore Saheb	... ..	243

# The Surgical Instruments of the Hindus.

Plate LXIV.



1



2



3



4



5



6



7



8

PLATE LXV.

SUCĪ OR NEEDLES.

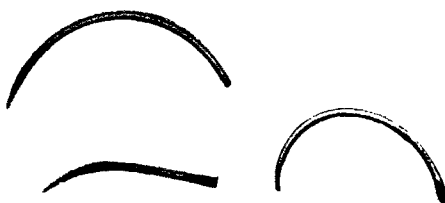
FIGURE.	PAGE.
1.—Suci or Needles, straight ...	243
2.—The same, Half-curved and Full-curved ...	243
3.—The same. After Wise ...	243
4.—The same. After Thakore Saheb. ..	243
5.—Javamukhī needle ...	245
6.—Suture needles (modern) Hagedorn's. B. B. Fig. 59, 60, 61 and 62 ...	245

# The Surgical Instruments of the Hindus.

Plate LXV.



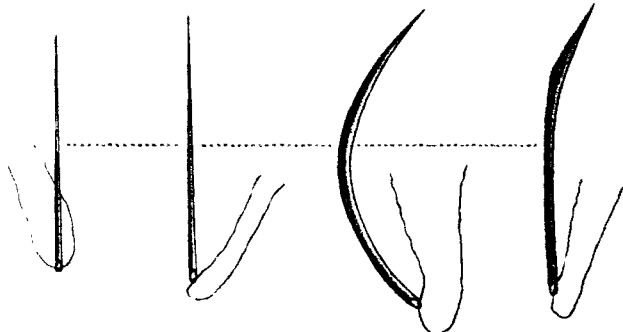
1



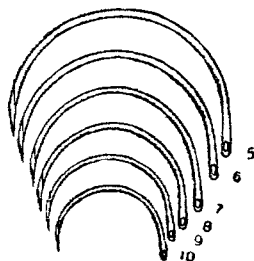
2



3



4



5

6

7

8

9

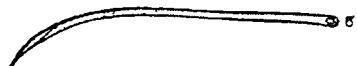
10



.



5



6



7

PLATE LXVI.

KUŚAPATRA ŚASTRA.

FIGURE.	PAGE.
1.—Kuśapatra Knife . . . . .	247
2.—The same . . . . .	247
3.—The same. After Wise . . . . .	247
4.—The same. After Thakore Saheb. . . . .	247
5.—Paget's Knife. A. H. Fig. 481 . . . . .	247

ĀTĪMUKHA ŚASTRA.

6.—Ātīmukha Knife . . . . .	249
7.—The same. After Wise . . . . .	249
8.—The same. After Thakore Saheb. . . . .	249

# The Surgical Instruments of the Hindus.

Plate LXVI.



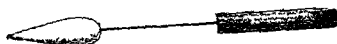
1



2



3



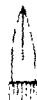
4



5



6



7



8



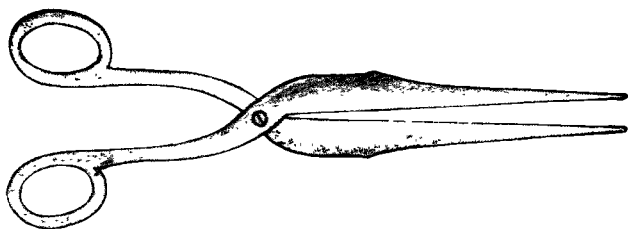
PLATE LXVII.

ŚARĀRĪMUKHA ŚASTRA OR SCISSORS.

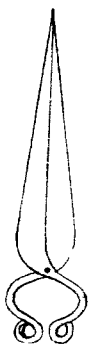
FIGURE.		PAGE.
1.—Śarārīmukha Śastra or Scissors	...	249
2.—The same. After Wise	...	249
3.—The same. After Thakore Saheb.	...	249
4.—Shears, found in Pompeii. Milne. Pl. X.		
Fig. 6	...	249
5.—Scissors (modern). A. H. Fig. 696	...	249

# The Surgical Instruments of the Hindus.

Plate LXVII.



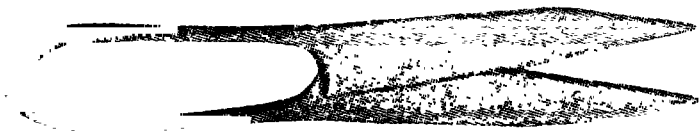
1



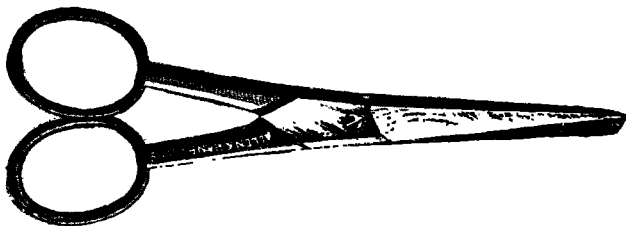
2



3



4



5

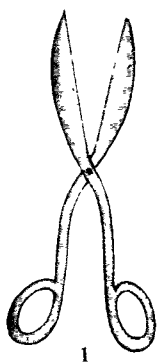
PLATE LXVIII.

ANTARMUKHA ŚASTRA OR SCISSORS.

FIGURE.		PAGE.
1.—Antarmukha Śastra (Suśruta)	... ..	250
2.—The same. After Wise	... ..	250
3.—The same After Thakore Saheb.	... ..	250
4.—Ardhacandrāṇana (Vagbhaṭa) or Half-moon Scissors...	... ..	251
5.—Scissors as used by the Greeks. Adams.	...	251
Vol. I. Pl. III. Fig. 8	... ..	

# The Surgical Instruments of the Hindus.

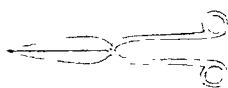
Plate LXVIII.



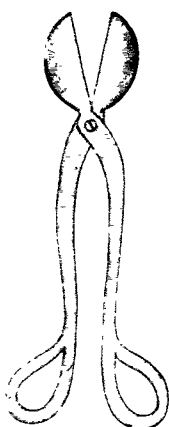
1



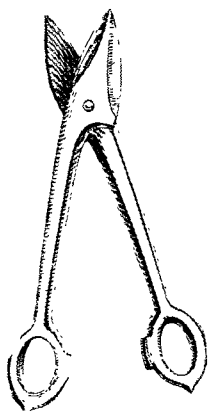
2



3



4



5

PLATE LXIX

TRIKŪRCCĀ ŚĀSTRA OR SCARIFICATOR.

FIGURE.		PAGE.
1.—Trikūrccakra Śastra	..	252
2.—The same. After Wise	... ..	251
3.—The same. After Thakore Saheb.	..	251
4.—Kūrcca	... ..	252
5.—Khaja	... ..	253

The Surgical Instruments of the Hindus.

Plate LXIX.



1



2



3



4



5



THE SURGICAL INSTRUMENTS OF THE HINDUS.

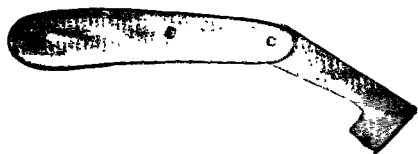
PLATE LXX.

KUṬHĀRIKĀ ŚĀSTRA OR AXE.

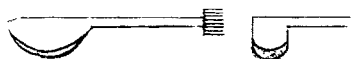
FIGURE.	PAGE.
1.—Kuṭhāra or Axe .. ..	245
2.—The same. After Wise ... ..	255
3.—The same. After Thakore Saheb. ... ..	255
4.—Improved Veterinary Fleam. White. P. 342 ... ..	257
5.—Gum Lancet (Modern) A. H. Fig. 3690 ... ..	257

# The Surgical Instruments of the Hindus.

Plate LXX.



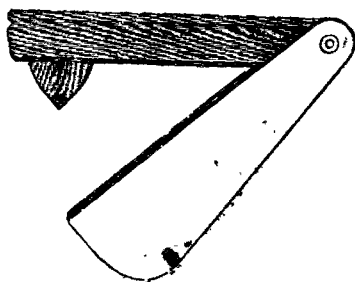
1



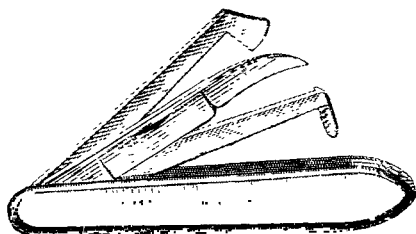
2



3



4



5



PLATE LXXI.

VRĪHIMUKHA ŚĀSTRA OR TROCAR.

FIGURE.	PAGE.
1.—Vrīhimukha Śāstra or Trocar . . .	257
2.—The same . . .	257
3.—The same. After Wise . . .	257
4.—The same. After Thakore Sahab . . .	257
5.—Paracentesis abdominis Trocar (modern) A. S. Fig. 1441 . . .	258
6.—Hydrocele Trocar (Modern) A. S. Fig. 1436 . . .	261

# The Surgical Instruments of the Hindus.

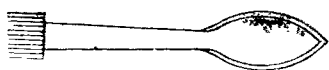
Plate LXXI.



1



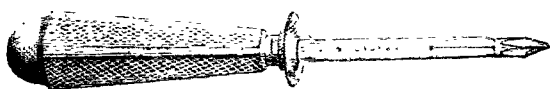
2



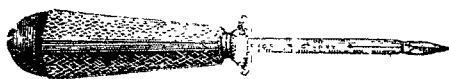
3



4



5



6

PLATE LXXII.

ĀRĀ ŚASTRA OR AWL.

FIGURE.	PAGE.
1.—Ārā or Awl (Dallaḥa) . . .	262
2.—The same (Vāgbhaṭa) ...	262
3.—The same. After Wise ...	262
4.—The same. After Thakore Saheb . . .	262
5.—Karṇa Vedhani or Ear perforator ..	263
6.—Juthikā or Ear perforator ...	263
7.—Fergusson's Awl, cleft palate. A. H. Fig. 3310 ...	263

# The Surgical Instruments of the Hindus.

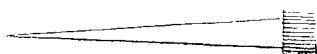
Plate LXXII.



1



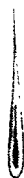
2



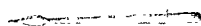
3



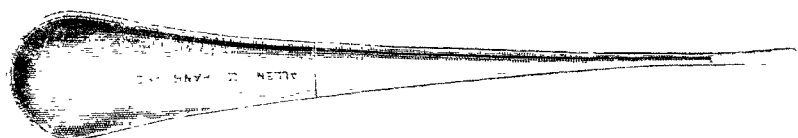
4



5



6



7

# THE SURGICAL INSTRUMENTS OF THE HINDUS.

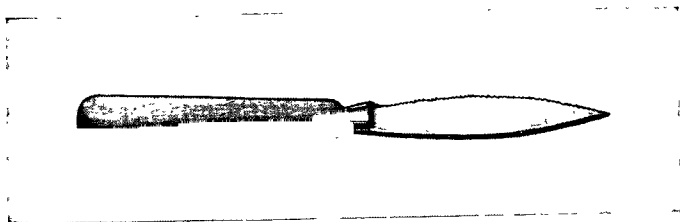
## PLATE LXXIII.

### VETASPATRA ŚASTRA.

FIGURE.			PAGE.
1.—Vetaspatra Sastra. Single edged	...	...	264
2.—The same. Double edged...	...	...	264
3.—The same. After Wise ...	...	...	264
4.—The same. After Thakore Saheb	...	...	264

# The Surgical Instruments of the Hindus.

Plate LXXIII.



1



2



3



4

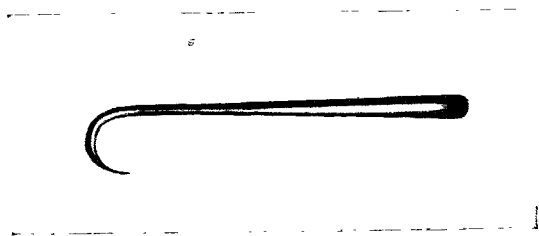
PLATE LXXIV.

VADĪŚA ŚĀSTRA OR SHARP HOOK.

FIGURE.	PAGE.
1—Vadīśa or sharp hook (Bhoja) . . . . .	261
2.—The same. After Wise . . . . .	261
3.—The same. After Thakore Saheb . . . . .	261
4.—Sharp Hook of the Greeks. Milne. Pl. XXIV. Fig. 2. . . . .	266
5.—Sharp Hook. (modern) A. II. 461. . . . .	266

# The Surgical Instruments of the Hindus.

Plate LXXIV.



1



2



3



4



5

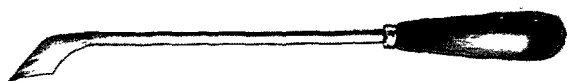


PLATE LXXV.

DANTA ŚAṆKU OR TOOTH-SCALER.

FIGURE.	PAGE.
1.—Danta Śaṅku or Tooth-scaler (Suśruta)	... 267
2.—The same. After Wise	... 267
3.—The same. After Thakore Saheb	... 267
4.—Danta-lekhana or Tooth Scaler (Vāgbhaṭa)	... 267
5.—Tooth Scalers (Modern), various sizes and shapes, A. S. Fig. 1364 & 1365	... 267

Plate LXXV.



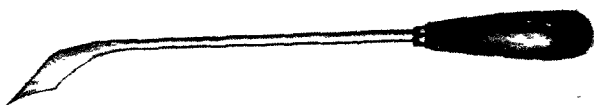
1



2



3



4



5

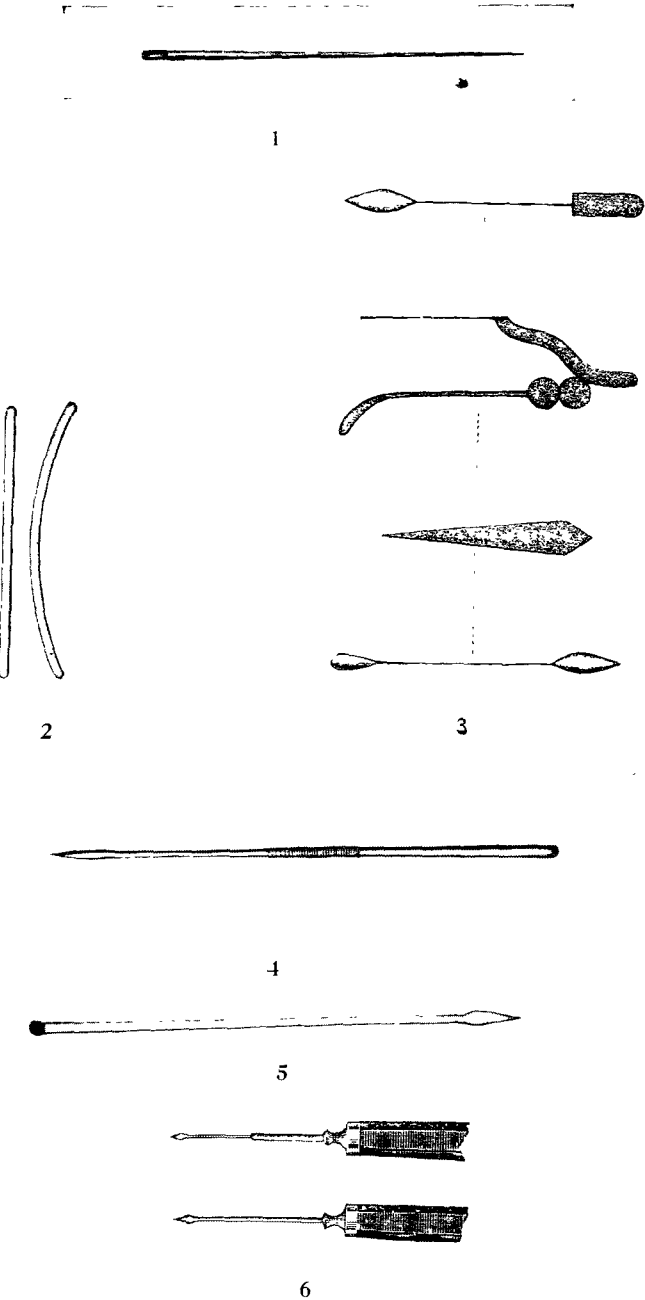
PLATE LXXVI.

Eṣanī OR SHARP PROBES.

FIGURE.			PAGE.
1.—Eṣanī or sharp probe	...	...	270
2.—The same. After Wise	...	...	270
3.—The same. After Thakore Saheb	...	...	270
4.—Cataract probe	...	...	273
5.—The same	...	...	273
6.—Cataract Needles (modern).	B. B. Fig. 551 and 552		273

# The Surgical Instruments of the Hindus.

Plate LXXVI.



# THE SURGICAL INSTRUMENTS OF THE HINDUS.

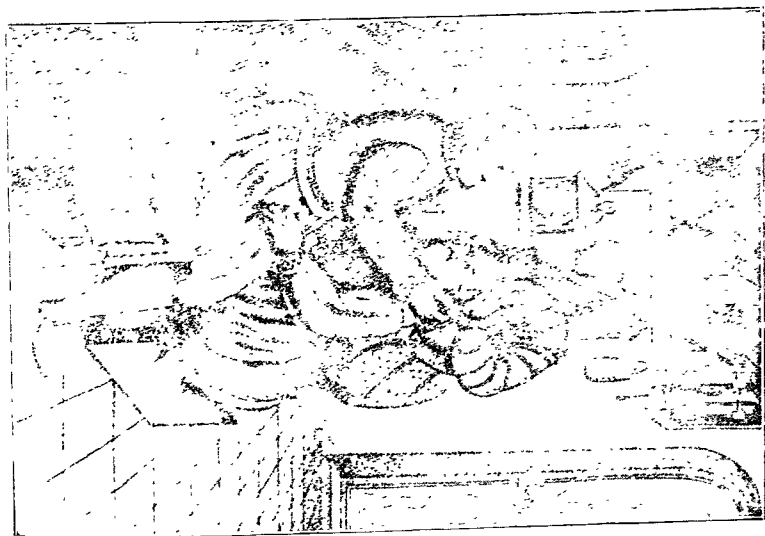
## PLATE LXXVII.

### OPERATION OF CATARACT.

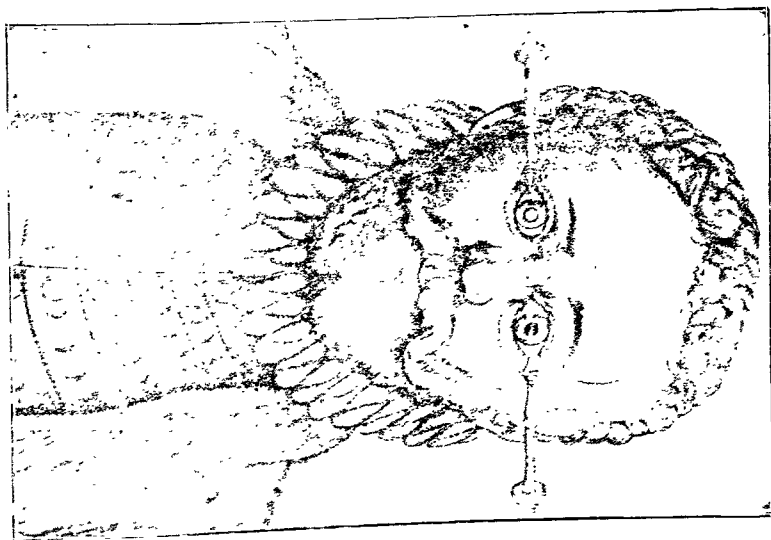
FIGURE.	PAGE.
1.—Operation of cataract as performed by Celsus, Benvenuto and Bartisch ... ..	276
2.—The same. I. M. G. 1904. p. 370 ... ..	277

# The Surgical Instruments of the Hindus.

Plate LXXVII



1



2

PLATE LXXVIII.

SARPĀSYA.

FIGURE.	PAGE.
1.—Sarpāsyā Śastra or polypus Knife ...	277
2.—Polypus Knife with Scoop. Greeks. Milne. Pl. VIII. Fig. 1. ...	278
3.—Uvula knife, after Albucasis. Milne. Pl. IX. Fig. 4 ...	278

# The Surgical Instruments of the Hindus.

Plate LXXVIII.



1



2



3



PLATE LXXIX.

FIGURE.	PAGE.
1.—Jihvā Nirlekhana or Tongue scraper ..	299
2.—Spoon ... ..	317
3.—Spoon (modern) A. H. Fig. 9384 ...	317
4.—Spittoon ... ..	317
—The same (modern) A. H. Fig. 9956 ...	317

# The Surgical Instruments of the Hindus.

Plate LXXIX.



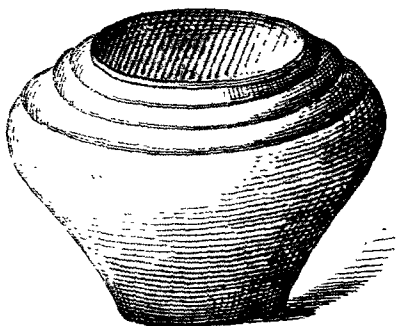
1



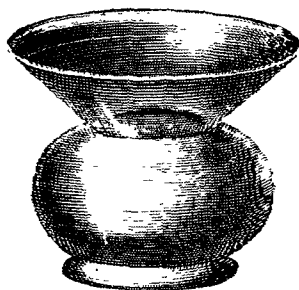
2



3



4



5

PLATE LXXX

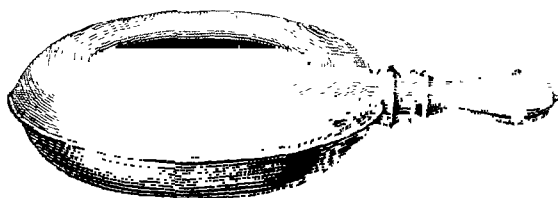
FIGURE.	PAGE
1.—Bedpan ... ..	317
2.—The same (modern) A. H. Fig. 9181...	317
3.—Pus basin ... ..	31
4.—Bleeding basin (Modern) A. H. Fig. 9235	317
5.—The same A. H. Fig. 9235	317
6.—Urinal ... ..	317
7.—The same, male. (modern) A. H. Fig. 9632	317
8.—The same, female. (modern) A. H. Fig. 9638	317

# The Surgical Instruments of the Hindus.

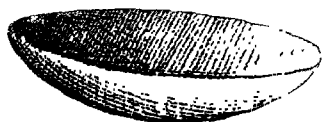
Plate LXXX.



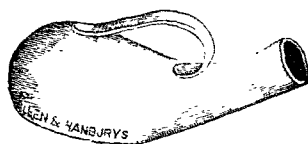
1



2



3



4



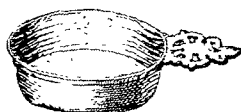
5



6



7



8

PLATE LXXXI.

FIGURE.	PAGE.
1.—Khala                    ...                    ...                    ...	318
2.—Pestle and mortar (modern) A. H. Fig. 9502	318
3.—Balance or Mānadaṇḍa    ...                    ...	324
4.—Peṣana Śilā or Grind stone                    ...	327
5.—Stone slab and muller    ...                    ...	327
6.—Sukti                    ...                    ...                    ...	326
7.—Medicine spoon (Modern) A. H. Fig. 9379	326



PLATE LXXXII.

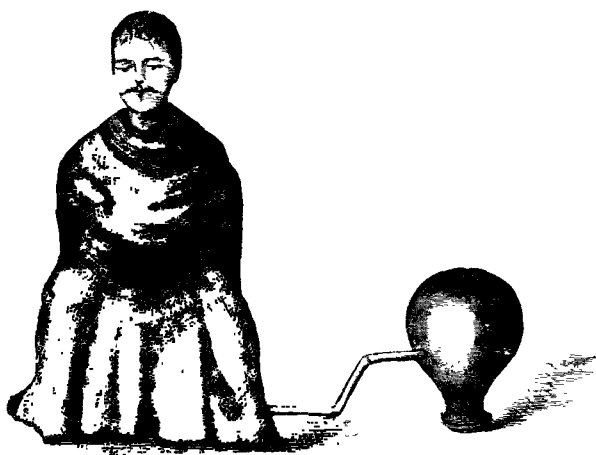
FIGURE.	PAGE.
1.—Hot vessels ... ..	321
2.—Vapour Bath ... ..	322
3.—The same (modern). B. B. Fig. 407 ... ..	322
4.—Cloth tent ... ..	322
5.—Droni ... ..	323

# The Surgical Instruments of the Hindus.

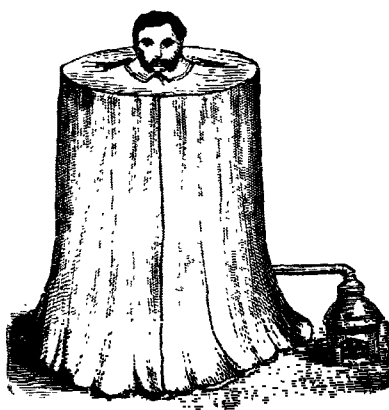
Plate LXXXII.



1



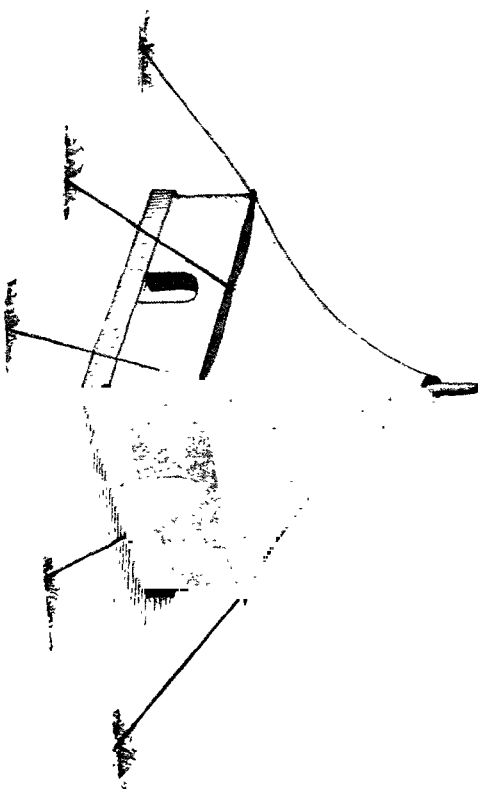
2



3



5



4





See Vol II

CATALOGUED

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26



Central Archaeological Library,  
NEW DELHI.

917809548861  
Call No. 617.910954/MUK

Author—Mukhopadhyaya. G.  
N

Title—The Surgical Instruments of the Hindus.  
Vol. II

*"A book that is shut is but a block"*

CENTRAL ARCHAEOLOGICAL LIBRARY  
GOVT. OF INDIA  
Department of Archaeology  
NEW DELHI.

Please help us to keep the book  
clean and moving.